

LIBERALITY OF RAJA SIR SOURENDRA MOHAN TAGORE, K.T., C.I.E.

No. 114T.—M., dated Darjeeling, the 13th June 1898.

RESOLUTION—By the Government of Bengal, Municipal Department.

READ—

A letter from the Secretary to the Plague Commission, Calcutta, No. 2031, dated the 25th May 1898, submitting, for the information of Government, a copy of a letter from Raja Sir Sourendra Mohan Tagore, K.T., C.I.E., in which he offers to place at the disposal of the Commission a house belonging to him at No. 10, Brojo Dullal's Street in Calcutta, for use as a Plague Hospital, as long as it may be necessary, for the people living in his immediate neighbourhood, including the residents of Nafun Bazar. The Raja also offers to pay Rs. 1,000 for the equipment and maintenance of the hospital.

Read also—

A letter from the Commissioner of the Presidency Division, No. 41M., dated 6th June 1898, in which he brings to notice that, in a letter addressed to him, the Raja has further offered to place his garden house at Sintee, on the Dum-Dum Road, with its extensive compound, at the disposal of Government for use as a Plague Hospital or a Segregation Camp in case of necessity. The Raja has, it is further reported, addressed the Collectors of districts in which his estates are situated offering his help and co-operation in the matter of any anti-plague measures that may be found necessary.

The Lieutenant-Governor is extremely gratified at these instances of the Raja's liberality and public spirit, and desires to express his thanks for them. His Honour trusts that the example of liberality and charity set by the Raja may be followed by other wealthy men. A copy of this Resolution will be published in the *Calcutta Gazette*.

WEATHER AND CROP REPORT.

For the week ending the 13th June 1898.

Burdwan.—Rainfall at Sadar ·88, Kalna ·33, Katwa ·02, Raniganj ·91. Weather seasonable. Ploughing, manuring, and sowing of *aus* and *aman* paddy continues. Common rice selling as follows:—

	Srs.	
Sadar ...	11½ to 16	} per rupee.
Kalna ...	12 to 13½	
Katwa ...	13½	
Raniganj ...	13	

Birbhum.—Rainfall at Sadar ·16, Rampur Hat 2·25. Weather hot and cloudy. Rain urgently needed at Sadar. Prices stationary. Fodder sufficient.

Bankura.—Rainfall at Sadar ·12, Vishnupur ·99. Weather hot and cloudy at intervals. More rain wanted for cultivation. Prospects of sugarcane and til good. Fodder and water sufficient. Common rice sells at 14 seers a rupee at Sadar and Vishnupur.

Midnapore.—Rainfall at Sadar 3·44, Contai 1·46, Tamluk 1·92, Ghatal ·89. Prospects of indigo and sugarcane hopeful. Ploughing and sowing going on. Prices of common rice are as follows:—

	Srs.	
Sadar ...	13	} per rupee.
Contai ...	13 to 16	
Tamluk ...	12½	
Ghatal ...	12	

Hooghly.—Rainfall at Sadar 1·82, Serampur 1·12, Jahanabad 2·11. Ploughing in full progress as well as sowing of *aus* and jute. Common rice sells from 10 to 12½ seers per rupee.

Howrah.—Rainfall at Sadar ·47, Ulubaria ·78. Weather hot. Sowing of *aus* and *aman* going on briskly. Jute progressing favourably. Fodder and water sufficient. Common rice sells at 10 to 12 seers per rupee.

24-Parganas.—Rainfall at Sadar 1·19, Barasat 2·05, Basirhat 2·12, Diamond Harbour 1·97. Weather hot. Ploughing and sowing going on. Young plants of *aus* and jute doing well. Fodder and water sufficient. Common rice sells as follows:—

	Srs.	
Sadar ...	10 to 12	} per rupee.
Barasat ...	10½	
Basirhat ...	13	
Diamond Harbour ...	11½	

Nadia.—Rainfall at Sadar ·82, Kushtia 1·62, Meherpur 4·47, Chuadanga 1·76, Ranaghat ·57. *Aus* seedlings have suffered a little from incessant and heavy rain at Meherpur. Weeding and harrowing going on in other places. Common rice selling at 10 to 13 seers per rupee. Fodder and water sufficient. No cattle-disease.

Murshidabad.—Rainfall at Sadar 1·65, Jangipur ·22, Kandi 2·35. Weather seasonable. *Bhadai* and jute plants thriving. *Til*, indigo, mulberry, and sugarcane doing well. No cattle-disease. Fodder and water sufficient. Common rice sells as follows:—

	Srs.	
Sadar ...	12½	} per rupee.
Kandi ...	13½	
Jangipur ...	14	

Jessore.—Rainfall at Jessore ·37, Jhenida 1·40, Narail ·58, Bangaon 3·42. Ploughing and sowing of *aus* and *aman* still continue. Standing crops doing well. No cattle-disease reported. Fodder and water sufficient. Common rice sells as follows:—

	Srs.	
Jessore ...	11 to 12	} per rupee.
Jhenida ...	10	
Bangaon ...	11½ to 12½	
Narail ...	11·64ch.	

Khulna.—Rainfall at Sadar '85, Bagerhat '44, Satkhira '49. Weather seasonable. Cultivation of *aus* and *aman* paddy going on. Fodder and water available. Common rice sells as follows :—

	Srs.				
Sadar	11 to 13
Bagerhat	13
Satkhira	13
					} per rupee.

Rajshahi.—Rainfall at Sadar 1'87, Nator 2'50, Nangaon 3'87. Prospects of crops good. No cattle-disease. Fodder and water available. Price of rice ranges from 11 to 13 seers per rupee.

Dinajpur.—Average rainfall '76. Weather cloudy and sultry. Condition of standing crops good. No cattle-disease. Fodder and drinking-water sufficient. Rice selling at 13 seers per rupee.

Jalpaiguri.—Rainfall at Sadar 4'93, Alipur Duars 6'18. Weather hot. Cultivation of *haimanti* paddy going on. Recent rain has done some good to standing crops. Fodder and drinking-water sufficient. Common rice sells from 8 to 14 seers a rupee.

Darjeeling.—Rainfall at Darjeeling 1'00, Siliguri 2'24, Kurseong '13. Weather seasonable. *Hills*—*Bhutta* and potatoes being harvested; *chhota murua* progressing. *Terai*—*Bhadoi*, jute and sugarcane progressing. Prospects good. Coarse rice sells as follows :—

Hills—9 to 10 seers per rupee.

Terai—13 to 15 " " "

Bhutta sells from 18 to 28 seers per rupee.

Rangpur.—Rainfall at Sadar 1'46, Gaibanda 1'36, Nilphamari 1'29, Kurigram '87. Weather excessively hot. Weeding of jute continues. Prospects good. Price of common rice stationary. Fodder and water sufficient.

Bogra.—Average rainfall 1'60. Lands being prepared for *aman*. Fodder and water sufficient. Common rice selling from 9½ to 12½ seers per rupee.

Pabna.—Rainfall at Sadar 1'25, Sirajganj 1'13. Weather hot and cloudy. The rain has done good to crops and prospects are very fair. Common rice sells from 10 to 12 seers generally except at Dulai thana, where it is 9½ seers a rupee.

Dacca.—Rainfall at Sadar '69, Manikganj '28, Munshiganj 1'85, Narainganj '78. Weather seasonable. Prospects of standing crops good. Fodder available. No cattle-disease. Common rice 10 to 11 seers per rupee.

Mymensingh.—Rainfall at Sadar '68, Netrokona '26, Jamalpur '25, Tangail 2'40. Weather hot with occasional showers. Prospects of standing crops good. Water sufficient except at Netrokona. Common rice 9½ to 11 seers per rupee.

Faridpur.—Rainfall at Sadar 1'46, Gosalundo 2'07, Madaripur 2'91. Weather warm and muggy. State and prospects of *aus* fair and of *aman* and jute good. Fodder and water sufficient. Common rice 11 to 11½ seers per rupee.

Backergunge.—Rainfall at Sadar 1'06. Weather showery. Prospects of crops fair. Common rice sells from 8 to 12 seers per rupee.

Tippera.—Weather hot and cloudy. Rainfall at Sadar '27, Chandpur '18. Paddy and jute thriving. Sowing of *aman* paddy still going on in Sadar subdivision. Fodder sufficient. Rice sells from 9 to 11 seers per rupee.

Chittagong.—Rainfall '12. Weather hot. Lands are being prepared for *aus*, and in some places being sown. More rain is wanted. Rice selling at 9 seers per rupee.

Noakhali.—Rainfall at Sadar 2'19, Feni '31. Prospects of crops good. Cattle-disease reported from Senbag and Ramganj. Fodder and water available. Price of rice 9 to 12 seers per rupee.

Patna.—Rainfall at Sadar '97, Barh 1'47, Bihar nil, Dinapur nil, Hilsa '25, Bikram '67. Rain has facilitated *bhadoi* sowings. Paddy is also being sown. Prices stationary. Common rice selling at 15½ seers per rupee in Patna. Fodder and water for cattle sufficient.

Gaya.—*Ohma* harvesting over. Sugarcane doing well. Fodder and water sufficient. Rice sells at 13½ seers, barley 22 seers, wheat 15½ seers, gram 10 seers, *arhar* 19½ seers, and maize 20 seers per rupee.

Bhabad.—Rainfall at Sadar ·02, Buxar ·11. Rain wanted. Sugarcane slightly 1 in Nasriganj by insect. Fodder and water sufficient. Common rice sells at 3 seers per rupee. Cattle-disease in one village in Sasaram.

an.—Rainfall at Sadar ·56, Siwan ·20, Gopalganj ·28. Weather seasonable. very good. Fodder and water sufficient. Cattle-disease still reported. Average common rice 12·9 seers and *makai* 20·2 seers, against 7·12 and 7 seers respectively

mparan.—Rainfall at Ramnagar ·10. Weather hot. Sowing of *bhadoi* and *aghani* s. *Mung* and *chima* being harvested. Sugarcane and indigo doing well. Fodder and Boient. Common rice sells at Sadar 11 seers, against average 13½ seers per rupee.

affarpur.—Rainfall at Sadar ·66, Hajipur ·14. Prospects good. Rain wanted the sowing of the crops. Those already sown are doing well. Prices are—common 11 to 13 seers, wheat 13 to 15 seers, barley 22 seers, *makai* 19 seers, gram 17 to and *rahar* 22 seers per rupee.

hanga.—Rainfall at Sadar and Samastipur nil, Madhubani ·15. Prospects of crops good. Sowing of *bhadoi* going on. Fodder and water sufficient. Common at Sadar 10 seers per rupee.

ghyr.—Rainfall at Monghyr ·12, Begusarai 1·25, Jamui 1·57. Weather hot. sowings going on. Indigo and sugarcane doing well. No cattle-disease. Common as follows:—

Monghyr	...	...	...	12 to 13½ seers per rupee.
Begusarai	...	...	...	11 to 13 " "
Jamui	...	...	...	14 " "

alpur.—Weather seasonable. Rainfall at Sadar ·16, Banka ·80. *Bhadoi* sowings Indigo, sugarcane and other standing crops doing well. Fodder and water-supply Cattle-disease reported from Supaul and Madhipura subdivisions. Price of ce stationary.

na.—Rainfall at Sadar and Kishanganj nil, Araria ·12. Weather very hot. *bhadoi* paddy nearly finished. Standing crops doing very well. Prospects excel. le-pox in a few villages in Araria subdivision. Fodder and water sufficient. rice selling at Sadar and Araria 16 seers, and at Kishanganj 15 seers per rupee.

t.—Rainfall at Sadar ·35, Chanchal 1·17, Shibganj ·41, Gajole 1·15. Weather *Bhadoi* sowings going on. More rain wanted. Price of coarse rice 18 seers per dder and water sufficient.

al Parganas.—Rain at all subdivisions—average ·91; Dumka ·18 only, more Ploughing progresses favourably elsewhere. Cattle-pox reported in Dumka. water-supply improving. Price of rice 13 to 14½ seers, and of maize 16½ to 20 ppee.

k.—Rainfall at Sadar 1·13, Jajpur 2·04, Kendrapara 1·87, Banki 1·49, False. Weather hot and cloudy with intermittent showers. *Beali* and *sarad* being sown. g harvested. Condition of cattle generally good, but disease still continues in dder sufficient. Common rice sells as follows:—

				Srs. ch.	
attack	...	...	...	12	8
jpur	...	...	...	15	12
andrapara	...	...	...	18	6
unki	...	...	...	16	13

per rupee.

ra.—Rainfall at Sadar 1·07. Sugarcane growing well. Harvesting of cotton Ploughing and sowing of *sarad* in progress. *Aus* seedlings are out in places. varies from 13 to 18 seers per rupee in the interior. Rice sells at 14 and 17 pce at Balasore and Bhadrak respectively. Fodder and water sufficient.

—Rainfall at Angul 2·22, Khondmals 1·77. Sowing of paddy and *bhadoi* crops Prices stationary.

Rainfall at Puri 1·31, Khurda 1·57. Sowing of *sarad* and *beali* briskly going one and cotton growing fairly well. Fodder and water sufficient. No cattle-bed. Common rice sells as follows:—

				Srs. ch.	
ri	...	...	...	11	13
urda	...	...	...	14	7
rior of district	...	...	14 7 to 15	12	

per rupee.

agh.—Rainfall at Sadar ·24, Giridi ·24. Rain badly wanted for ploughing. 2 seers per rupee.

Lohardaga.—Rainfall .08. Sowing of *gundli* and paddy continues. Rice sells at Ranchi 11 seers per rupee and in the interior from 11 to 16 seers per rupee. Cattle-disease continues. Fodder and water sufficient. Grain in stock sufficient.

Palaman.—Weather very hot. Mahuadanr and Ranka report good rain; elsewhere it has been slight; none at Daltonganj. *Gera dhan* and *bhadoi* crops are being sown in parts. Sugarcane and *gundli* doing well. Rice selling from 12 to 16 seers per rupee. Water and fodder sufficient.

Manbhum.—Rainfall at Sadar 1.23, Gobindpur .36. Weather seasonable. Prospects of crops on the ground good. Sowing of paddy going on. Cattle-disease reported from thanas Purulia and Ohandil. Fodder and water sufficient. Average price of common rice at Sadar 13½ seers and at Gobindpur 12 seers per rupee. Supply sufficient.

Singhbhum.—Rainfall .88. Rice plentiful; price from 12 to 14 seers per rupee.

General Summary.—There was rain over almost the whole of the Province during the week. The present agricultural prospects are favourable. Ploughing and sowing are in progress, and the *aus* rice and jute already sown are doing well. More rain is required in some parts. Reports of the sugarcane and indigo crops continue satisfactory. The *china* and *mung* millets in Bihar are still being harvested, and the cotton crop in Orissa has begun to be gathered. Prices were generally stationary. Cattle-disease is still reported from Noakhali, Shahabad, Saran, Bhagalpur, Purnea, Cuttack, Lohardaga, and Manbhum. The supply of fodder and water is generally sufficient.

By order of the Lieutenant-Governor of Bengal,

REVENUE DEPARTMENT,

The 14th June 1898.

M. FINUCANE,

Secretary to the Govt. of Bengal.

Results of the Meteorological Observations taken at the Alipore Observatory from 5th to 11th June 1898.

Month.	Date.	Maximum in sun.	Number of hours of bright sunshine.	Mean pressure barometer at 32° Fahr.	TEMPERATURE.				HYGROMETRY.				WIND.		Rain.	WEATHER.
					Mean.	Maximum.	Range.	Minimum.	Mean wet bulb.	Vapour tension.	Dew point.	Humidity.	Prevailing direction.	Miles recorded.		
1898.				Inches.	°	°		°		Inches	°	%			Inches.	
June	5th	148.7	11.7	29.535	86.3	94.3	17.4	76.9	78.7	0.884	75.6	71	SSW and variable.	91	Nil	Partially cloudy.
"	6th	147.3	3.0	523	83.1	90.8	16.4	75.4	80.1	0.888	76.0	87	SE by E and SE by S.	108	0.02	Chiefly cloudy, a. p.
"	7th	162.8	4.0	550	83.4	88.6	12.0	76.5	79.7	0.907	78.2	81	SE by S and SSW	94	0.03	Chiefly cloudy, d.
"	8th	151.5	5.2	534	85.0	91.3	12.1	79.2	80.5	0.893	73.7	82	SE by S, and SSE	99	Nil	Partially cloudy.
"	9th	153.5	2.3	570	84.7	89.2	9.8	79.4	80.8	0.890	79.2	84	SE by S and SSE	110	"	Chiefly cloudy, a.
"	10th	160.3	1.8	570	82.6	90.5	11.1	79.4	79.7	0.76	78.5	87	SE by S and variable.	83	0.42	Chiefly cloudy, a, d, p, t.
"	11th	149.7	8.1	597	85.9	92.2	13.8	78.4	79.9	0.91	77.4	76	SSE	120	0.11	Partially cloudy, d, p.

The mean pressure of the seven days

The average pressure of the corresponding period for 24 years, Surveyor-General's Office

Inches.
29.562

The total number of hours of bright sunshine

The maximum possible number of hours of sunshine

29.573

Hours.

36.1

94.0

The mean temperature of the seven days

The average temperature of the corresponding period for 24 years, Surveyor-General's Office

84.4

The extreme variation of temperature

The maximum temperature

85.8

18.9

94.3

The highest velocity of the wind in one hour

Miles.

13

The mean relative humidity

The average relative humidity of the corresponding period for 24 years, Surveyor-General's Office

82

The total fall of rain from 5th to 11th June 1898

The average fall of the corresponding period for 24 years, Surveyor-General's Office

Inches.

1.18

The total fall from 1st January to 11th June 1898

The average fall of the corresponding period for 24 years, Surveyor-General's Office

2.48

7.30

12.91

The mean pressure, temperature, &c., are deduced from the traces of the Barograph and Thermograph and from observations made at 6h., 10h., 16h., and 22h.

The maximum and minimum temperatures are obtained from self-registering thermometers. All the thermometers are verified and the readings have been corrected to a standard constructed and verified at the Kew Observatory. They are exposed under a thatched shed open at the sides, and are suspended four feet above the ground.

The barometer readings are corrected approximately to those of the standard, Newman's No. 86, formerly at the Surveyor-General's Office.

The hygrometric elements are obtained from Tables III, IV, and V of the official tables computed in the Meteorological Office, and based on Regnault's modifications of August's formula.

The directions and the movement of the wind are taken from the trace of a Beckley's anemograph.

The mouth of the rain-gauge is one foot above the ground.

c, overcast; p, passing temporary showers; d, drizzling rain; t, thunder.

METEOROLOGICAL OFFICE, GOVT. OF INDIA,
Calcutta, the 15th June 1898.

J. H. GILLILAND,
For Meteorological Reporter to the Govt. of India.

Meteorological Report of the Province

METEOROLOGICAL DIVISION.	Division.	District.	Representative stations.	STATION OBSERVATIONS.											
				AIR PRESSURE.					WIND.		TEMPERATURE.				
				Highest, 8 A.M., barometer reading.	Lowest, 8 A.M., barometer reading.	Mean, 8 A.M., reduced to 32°.	Mean reduced to sea-level and constant gravity, Lat. 45°.	Variation from normal mean.	Mean direction at 8 A.M.	Mean velocity in miles daily.	Direction of highest month.	Lowest of month.	Mean daily maximum temperature.	Mean daily minimum temperature.	Mean daily temperature.
SOUTH-WEST MONSOON.	Burdwan	Burdwan	Burdwan	29.713	29.533	29.609	29.634	-.026	535°W	75	109.5	70.3	102.0	79.1	80.7
			Raniganj	29.408	29.273	29.343	29.343	—	310°E	84	113.3	69.4	104.2	76.9	80.4
		Birbhum	Birbhum	29.480	29.360	29.420	29.420	—	321°E	103	121.6	69.1	104.1	79.9	82.4
		Bankura	Bankura	29.557	29.459	29.508	29.554	-.046	35°E	104	110.4	73.3	103.3	79.3	81.4
		Midnapore	Midnapore	29.789	29.345	29.602	29.664	-.062	60°E	490	91.2	73.1	99.3	82.3	87.3
	Presidency	Calcutta	Calcutta	29.802	29.395	29.705	29.669	-.033	515°W	123	103.4	70.7	99.9	77.9	84.9
		Nadia	Krishnagar	29.797	29.379	29.672	29.607	—	85°E	163	107.3	67.2	99.4	76.6	82.9
		Murshidabad	Berhampore	29.788	29.344	29.666	29.679	-.013	517°E	104	108.1	66.3	98.7	76.3	82.4
		Jessore	Jessore	29.810	29.384	29.652	29.673	-.021	N 63°E	130	106.0	65.3	97.0	76.6	82.3
		Khulna	Khulna	29.792	29.335	29.608	29.673	-.065	530°E	159	106.0	65.1	97.4	76.3	82.6
NORTH-EAST MONSOON.	Rajshahi	Rajshahi	Rajshahi	29.784	29.439	29.604	29.681	-.077	503°E	108	104.3	62.3	93.6	73.1	80.3
			Dinajpur	29.683	29.291	29.489	29.683	-.084	377°E	76	97.4	60.1	88.5	73.9	80.1
		Darjeeling	Darjeeling	29.913	29.337	29.642	—	0	N 51°E	186	73.3	48.3	64.7	51.3	57.2
		Cooch Behar	Cooch Behar	29.737	29.436	29.584	29.697	—	E	83	95.4	67.1	87.9	72.7	80.3
		Rangpur	Rangpur	29.768	29.447	29.603	29.710	-.017	534°E	86	99.3	60.7	90.6	73.6	81.3
	Dacca	Bogra	Bogra	29.832	29.348	29.675	29.686	—	—	—	103.6	67.3	94.6	73.1	81.4
		Fatma	Sirajganj	29.807	29.334	29.670	29.677	-.080	533°E	88	101.8	60.7	93.7	74.0	81.1
		Dacca	Narayanganj	29.809	29.394	29.720	29.700	-.018	523°E	123	99.1	60.2	90.1	73.6	80.9
		Mymensingh	Mymensingh	29.811	29.360	29.700	29.711	-.011	509°E	40	97.3	60.6	90.4	74.6	82.6
		Faridpur	Faridpur	29.854	29.384	29.708	29.700	-.008	54°E	81	103.6	60.4	94.3	74.3	82.1
EAST MONSOON.	Chittagong	Chittagong	Barisal	29.855	29.316	29.733	29.626	-.008	510°E	70	100.3	60.1	93.7	77.9	82.3
			Tippera	29.845	29.332	29.729	29.706	—	531°E	128	98.2	60.6	94.4	73.3	81.0
		Noakhali	Noakhali	29.846	29.380	29.718	29.708	—	34°W	116	94.0	60.0	90.7	73.6	82.3
		Chittagong	Chittagong	29.811	29.340	29.601	29.725	-.017	547°E	136	94.3	60.6	91.4	73.3	82.3
		Chittagong Hills Tracts	Chittagong Hills Tracts	29.802	29.302	29.498	29.633	-.035	570°E	155	102.0	60.2	91.3	74.9	82.1
	Patna	Patna	Patna	29.811	29.370	29.592	29.689	-.097	560°E	208	113.5	71.3	107.9	80.3	84.7
		Gaya	Gaya	29.836	29.390	29.616	29.616	-.080	510°W	242	118.5	72.5	107.1	80.7	85.9
		Buxar	Buxar	29.841	29.310	29.444	29.615	-.013	N 79°E	198	110.0	69.6	103.5	79.9	82.3
		Arrah	Arrah	29.879	29.300	29.474	29.614	—	560°E	—	102.4	69.5	103.4	77.3	82.4
		Chhapra	Chhapra	29.811	29.309	29.563	29.633	—	564°E	140	103.3	71.1	103.3	77.3	82.7
SINHALESE MONSOON.	Bihar	Bihar	Motihari	29.831	29.348	29.489	29.650	—	N 63°E	201	104.9	69.9	97.0	71.9	81.4
			Muzaffarpur	29.813	29.359	29.492	29.624	—	533°E	145	104.3	69.3	96.4	73.6	81.0
		Darbhanga	Darbhanga	29.844	29.304	29.624	29.644	-.020	539°E	106	—	69.3	—	74.6	—
		Monghyr	Monghyr	29.865	29.324	29.635	29.647	-.014	N 67°E	123	113.6	69.1	100.2	75.4	82.4
		Bhagalpur	Bhagalpur	29.763	29.348	29.559	29.600	-.042	N 67°E	163	105.3	63.3	98.9	73.4	82.1
	Orissa	Orissa	Malda	29.810	29.301	29.633	29.683	—	534°E	71	106.1	67.0	97.5	74.2	82.3
			Naya Dumka	29.821	29.107	29.218	29.654	-.047	545°E	64	110.4	69.6	101.4	76.6	82.1
		Cuttack	Cuttack	29.778	29.331	29.649	29.670	-.021	541°W	120	108.0	73.7	101.6	80.3	81.1
		False Point	False Point	29.833	29.300	29.717	29.679	-.054	549°W	109	90.5	69.1	91.7	79.3	80.5
		Balasore	Balasore	29.755	29.346	29.655	29.657	-.002	537°W	120	108.3	67.8	99.7	73.3	80.5
CHOTA NAGPUR.	Chota Nagpur	Chota Nagpur	Short's Island	29.883	29.300	29.721	29.694	—	545°W	354	94.3	71.6	91.1	80.3	82.4
			Puri	29.887	29.305	29.715	29.675	—	531°W	450	94.3	74.1	91.1	80.7	82.3
		Basantnagar	Basantnagar	27.815	27.336	27.705	29.630	-.018	543°W	330	103.6	67.6	105.4	77.9	82.7
		Lohardaga	Ranahi	27.718	27.300	27.609	29.630	+0.01	545°W	305	103.3	67.9	101.3	76.6	82.3
		Palamaner	Daltenganj	29.105	29.331	29.664	29.633	—	50°E	—	113.6	70.8	100.6	78.9	82.3
	Chota Nagpur	Chota Nagpur	Manbhan	29.951	28.845	29.345	29.645	—	566°W	381	113.7	75.3	100.9	79.3	82.4
			Sibsonar	29.086	29.287	29.654	29.747	-.091	N 27°E	173	94.2	67.6	93.6	70.9	80.3
		Gopalpur	Dhulei	29.773	29.473	29.637	29.706	-.069	N 63°E	173	96.7	66.7	97.6	73.1	80.3
		Cocher	Silchar	29.806	29.330	29.610	29.745	-.035	N 73°E	183	100.1	69.6	94.1	73.3	80.3
		Chota Nagpur	Chota Nagpur	29.806	29.330	29.610	29.745	-.035	N 73°E	183	100.1	69.6	94.1	73.3	80.3

a Mean of 30 days. | b Mean of 29 days. | c Mean of 28 days. | d Mean of 27 days. | e Mean of 26 days.

for the month of May 1898.

DISTRICT OBSERVATIONS.															DISTRICT.
No.	CLOUD.		Rain-fall.	RAINFALL--											
	Mean cloud amount, P.M.	Variation from normal mean, P.M.		Of month.					Since 16th May 1898.						
				Mean of district.	Normal mean.	Variation from mean.	Number of rainy days.	Normal mean number of rainy days.	Mean of district.	Normal mean.	Variation.	Mean number of rainy days.	Normal mean number of rainy days.		
1	85	-0.5	0.45	3.40	5.92	-1.63	5.30	5.39	1.43	3.08	-1.44	1.80	3.37	Burdwan.	
2	83	-	3.67	3.	4.15	-0.41	5.75	5.33	1.20	2.74	-1.54	1.75	3.35	Birbhum.	
3	83	-	2.83	2.11	4.90	-2.79	4.90	5.30	0.50	3.15	-2.35	1.30	3.20	Bankura.	
4	81	-	1.50	2.99	5.23	-2.30	6.00	6.47	1.10	3.11	-2.01	1.67	3.53	Midnapore.	
5			7.19	5.25		+1.90	6.00	7.37	3.14	2.70	+0.30	2.33	2.93	Hoochly.	
6			2.63	3.46		-0.78	6.00	7.24	1.29	2.73	-1.43	2.00	3.68	Howrah.	
7	67	+0.8	1.90	4.31	5.45	-0.94	5.78	7.44	3.15	3.03	-0.78	2.71	4.04	24-Parganas.	
8	84	-0.4	4.08	4.08	5.43	-1.35	5.00	7.24	1.90	3.01	-1.11	2.09	3.48	Calcutta.	
9	82	-	5.23	7.43	6.46	+0.94	7.40	6.18	6.48	3.61	+0.87	4.56	4.64	Nadia.	
10	82	-0.1	7.00	5.07	2.27	+0.30	7.11	7.28	3.65	3.35	+0.30	3.44	4.19	Murshidabad.	
11	86	-0.5	14.71	8.95	7.08	+2.29	10.00	9.05	7.88	3.60	+3.67	7.00	4.60	Jamsh.	
12			9.30	6.40		+0.02	10.00	8.32	6.20	3.25	+3.05	7.22	4.12	Khulna.	
13	84	-	3.80	6.42	6.30	+0.12	8.00	7.75	4.22	3.24	+0.98	5.00	4.60	Rajshahi.	
14	82	-	7.57	6.08	5.94	+0.09	8.20	7.60	3.68	3.78	-0.10	3.60	3.88	Dinipur.	
15	84	-	7.17	12.45	12.27	+0.18	12.25	12.45	2.04	7.87	-5.83	3.00	7.14	Jalpaiguri.	
16	84	-2.0	6.33	7.24	11.38	-4.14	11.75	12.83	1.00	7.23	-6.23	6.75	7.35	Darjeeling.	
17	81	-	12.73	12.61	14.01	-1.40	12.75	14.05	3.55	5.78	-2.23	3.75	8.08	Goob Behar.	
18	82	-	7.55	8.34	11.07	-2.73	10.40	11.37	2.75	6.98	-4.23	4.80	6.31	Kanchpur.	
19	84	-	5.08	7.34	7.54	-0.60	10.33	9.28	3.60	4.32	-0.72	6.00	5.32	Bogra.	
20	82	-	7.09	6.88	7.75	-1.09	7.00	9.03	3.79	4.43	-0.64	5.00	5.08	Falna.	
21	87	+1.1	6.45	3.97	9.65	-3.68	6.40	11.16	4.03	5.21	-1.18	4.80	5.47	Dacca.	
22	82	-	10.98		11.05			11.00		6.80			6.42	Mymensingh.	
23	82	-	2.76	6.41	8.30	-0.90	10.33	10.31	6.70	4.49	+2.21	7.67	4.98	Faridpur.	
24	82	-	8.27	9.44	8.10	+1.34	9.17	9.39	7.03	4.37	+2.66	7.17	4.88	Backergunge.	
25	84	-	10.54		10.32			10.60		5.35			5.30	Tippura.	
26	84	-	10.74	8.78	10.05	-1.27	8.30	10.98	6.12	5.79	+0.34	8.24	5.24	Noakhali.	
27	83	-0.3	6.65	4.98	11.54	-6.56	7.40	10.45	5.24	6.89	-1.65	4.40	5.31	Chittagong.	
28	81	-1.1	1.39	3.25	11.38	-8.13	6.00	12.15	1.18	4.61	-3.43	3.00	5.03	Chittagong Hill Tracts.	
29	81	-0.5	Nil	0.30	1.45	-1.15	0.45	1.25	0.16	1.05	-0.89	0.33	1.14	Patna.	
30	80	-	Nil											Gaya.	
31	80	-	0.09	0.15	1.03	-0.88	0.30	1.74	0.04	0.57	-0.53	0.17	1.00	Shahabad.	
32	83	-	0.80												
33	82	-	1.03	1.83	1.77	+0.06	3.07	2.73	0.39	1.09	-0.70	1.67	1.45	Saran.	
34	86	-	8.30	3.29	3.08	+0.21	5.50	4.14	1.56	1.65	-0.09	2.75	2.43	Champan.	
35	80	-	4.53	4.03	3.28	+1.25	5.14	3.30	2.42	1.47	+0.95	3.67	2.03	Muzaffarpur.	
36	84	-1.4	8.04	4.25	2.53	+1.51	6.40	5.40	2.01	1.46	+0.55	3.00	1.89	Darbhanga.	
37			3.85	3.00		+0.85	3.60	3.08	2.03	1.77	+0.26	1.80	1.40	Monghyr.	
38	83	-	4.07	4.10	3.31	+0.79	3.33	4.45	2.40	3.31	+0.09	5.33	3.53	Bhagalpur.	
39	83	+1.3	5.08		5.90			6.03		3.76			3.70	Purnea.	
40	83	-	3.43	5.04	4.08	+0.96	3.90	2.73	3.75	6.13	+0.63	4.75	5.47	Malda.	
41	83	-	1.73		3.05			5.03		2.55			2.83	Sonthal Parga.	
42	87	+1.1	2.56	2.73	4.57	-1.84	5.25	4.91	1.57	3.53	-1.96	2.68	2.86	na.	
43	87	+1.0	1.08											Cuttack.	
44	82	-	3.00	3.05	5.12	-2.07	5.67	4.35	1.31	3.30	-1.99	2.43	2.33	Balasore.	
45	82	-	3.23	2.35	3.35	-1.00	3.40	3.24	1.50	2.48	-0.98	2.50	1.24	Shortt's Island.	
46	82	-	0.40											Puri.	
47	82	-0.3	0.12	0.20	2.71	-2.59	1.44	2.32	0.20	1.04	-1.44	0.67	1.06	Hazaribagh.	
48	82	-	1.82	1.76	2.81	-1.05	2.00	2.53	1.15	1.60	-0.45	2.00	1.78	Goardaga.	
49	82	-	0.08	0.25	1.12	-0.97	0.73	1.32	0.35	0.96	-0.71	0.75	1.35	Falcons.	
50			2.75	2.18		-0.57	2.33	4.41	1.44	2.14	-0.70	1.67	2.65	Manbham.	
51	87	-	2.67	3.38	3.60	-1.22	6.23	5.71	1.16	2.61	-1.45	2.50	3.44	Singbham.	
52	87	0	11.00											Sibpur.	
53	87	0	13.10											Dhubri.	
54	87	-0.6	6.03											Cocher.	

Table of Rainfall recorded at

Hydrological Dist- rict.	Division.	District.	Station.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
SOUTH-WEST BENGAL	Burdwan.	Burdwan	Kalna	...	...	...	...	...	0.04	...	0.07	...	0.78	...	...	...	0.25	...	...	...	...
		Burdwan	Burdwan	...	...	...	0.01	...	0.01	...	0.12	...	0.39	...	...	...	0.21	...	...	...	...
		Burdwan	Katwa	...	...	...	...	...	0.14	...	0.05	...	0.79	...	1.13	0.37	...	0.19	...	...	...
		Burdwan	Banikang	...	...	...	...	...	...	...	...	...	0.78	...	...	...	0.20	...	...	...	...
		Burdwan	Manikpur	...	...	...	...	...	...	...	...	...	0.78	...	...	...	0.20	...	...	...	...
		Burdwan	Sari	...	...	...	0.01	...	...	...	...	...	0.78	...	...	...	0.20	...	...	...	...
		Burdwan	Kolnagar	...	...	...	...	...	0.02	...	...	...	0.08	...	...	...	0.20	...	...	...	...
		Burdwan	Kolnagar	...	...	...	...	...	0.02	...	...	...	0.08	...	...	...	0.20	...	...	...	...
		Burdwan	Kolnagar	...	...	...	...	...	0.02	...	...	...	0.08	...	...	...	0.20	...	...	...	...
		Burdwan	Kolnagar	...	...	...	...	...	0.02	...	...	...	0.08	...	...	...	0.20	...	...	...	...
SOUTH-WEST BENGAL	Burdwan.	Burdwan	Kolnagar	...	...	...	...	...	0.02	...	...	...	0.08	...	...	...	0.20	...	...	...	...
		Burdwan	Kolnagar	...	...	...	...	...	0.02	...	...	...	0.08	...	...	...	0.20	...	...	...	...
		Burdwan	Kolnagar	...	...	...	...	...	0.02	...	...	...	0.08	...	...	...	0.20	...	...	...	...
		Burdwan	Kolnagar	...	...	...	...	...	0.02	...	...	...	0.08	...	...	...	0.20	...	...	...	...
		Burdwan	Kolnagar	...	...	...	...	...	0.02	...	...	...	0.08	...	...	...	0.20	...	...	...	...
		Burdwan	Kolnagar	...	...	...	...	...	0.02	...	...	...	0.08	...	...	...	0.20	...	...	...	...
		Burdwan	Kolnagar	...	...	...	...	...	0.02	...	...	...	0.08	...	...	...	0.20	...	...	...	...
		Burdwan	Kolnagar	...	...	...	...	...	0.02	...	...	...	0.08	...	...	...	0.20	...	...	...	...
		Burdwan	Kolnagar	...	...	...	...	...	0.02	...	...	...	0.08	...	...	...	0.20	...	...	...	...
		Burdwan	Kolnagar	...	...	...	...	...	0.02	...	...	...	0.08	...	...	...	0.20	...	...	...	...
SOUTH-WEST BENGAL	Burdwan.	Burdwan	Kolnagar	...	...	...	...	...	0.02	...	...	...	0.08	...	...	...	0.20	...	...	...	...
		Burdwan	Kolnagar	...	...	...	...	...	0.02	...	...	...	0.08	...	...	...	0.20	...	...	...	...
		Burdwan	Kolnagar	...	...	...	...	...	0.02	...	...	...	0.08	...	...	...	0.20	...	...	...	...
		Burdwan	Kolnagar	...	...	...	...	...	0.02	...	...	...	0.08	...	...	...	0.20	...	...	...	...
		Burdwan	Kolnagar	...	...	...	...	...	0.02	...	...	...	0.08	...	...	...	0.20	...	...	...	...
		Burdwan	Kolnagar	...	...	...	...	...	0.02	...	...	...	0.08	...	...	...	0.20	...	...	...	...
		Burdwan	Kolnagar	...	...	...	...	...	0.02	...	...	...	0.08	...	...	...	0.20	...	...	...	...
		Burdwan	Kolnagar	...	...	...	...	...	0.02	...	...	...	0.08	...	...	...	0.20	...	...	...	...
		Burdwan	Kolnagar	...	...	...	...	...	0.02	...	...	...	0.08	...	...	...	0.20	...	...	...	...
		Burdwan	Kolnagar	...	...	...	...	...	0.02	...	...	...	0.08	...	...	...	0.20	...	...	...	...
SOUTH-WEST BENGAL	Burdwan.	Burdwan	Kolnagar	...	...	...	...	...	0.02	...	...	...	0.08	...	...	...	0.20	...	...	...	...
		Burdwan	Kolnagar	...	...	...	...	...	0.02	...	...	...	0.08	...	...	...	0.20	...	...	...	...
		Burdwan	Kolnagar	...	...	...	...	...	0.02	...	...	...	0.08	...	...	...	0.20	...	...	...	...
		Burdwan	Kolnagar	...	...	...	...	...	0.02	...	...	...	0.08	...	...	...	0.20	...	...	...	...
		Burdwan	Kolnagar	...	...	...	...	...	0.02	...	...	...	0.08	...	...	...	0.20	...	...	...	...
		Burdwan	Kolnagar	...	...	...	...	...	0.02	...	...	...	0.08	...	...	...	0.20	...	...	...	...
		Burdwan	Kolnagar	...	...	...	...	...	0.02	...	...	...	0.08	...	...	...	0.20	...	...	...	...
		Burdwan	Kolnagar	...	...	...	...	...	0.02	...	...	...	0.08	...	...	...	0.20	...	...	...	...
		Burdwan	Kolnagar	...	...	...	...	...	0.02	...	...	...	0.08	...	...	...	0.20	...	...	...	...
		Burdwan	Kolnagar	...	...	...	...	...	0.02	...	...	...	0.08	...	...	...	0.20	...	...	...	...

Table of Rainfall recorded at

[illegible]

in May 1898—continued.

No.	84	85	86	87	88	89	90	91	Sum of rainy days.	Average number of rainy days.	Total rainfall for the month.	Average rainfall for the month.	Historical rainfall during the month.	Total rainfall from 1881 to 1884.	Average rainfall from 1881 to 1884.	Station.	District.	Division.	Meteorological Divi- sion.
100	1.00	1.43	...	1.48	...	0.46	3.17	8	11.36	10.70	8.83	2.77	6.96	5.17	Munshiganj	Dacca.			
101	0.16	0.74	...	0.64	...	1.31	1.31	8	11.25	8.07	10.30	2.99	3.33	4.00	Dacca				
102	0.41	1.20	...	0.17	...	0.31	0.61	11	10.88	8.51	10.28	1.78	3.88	5.77	Naraingonj.				
103	0.09	0.63	...	0.19	0.53	3.53	0.33	11	10.83	11.20	8.83	3.32	0.71	4.24	Manikgonj.				
104	0.09	0.63	...	0.19	0.53	3.53	0.33	11	10.83	11.20	8.83	3.32	0.71	4.24	Jaydebpur.				
105	0.10	0.19	...	0.13	0.43	0.00	0.35	8	10.30	7.05	8.30	2.10	1.25	3.58	Kishoregonj	Mymensingh.			
106	0.07	0.03	...	0.18	0.35	0.92	0.32	13	13.35	10.80	11.75	2.47	5.57	4.54	Atia (Tangaila).				
107	0.05	0.05	...	0.05	0.20	0.25	1.20	18	10.32	9.30	9.01	1.83	3.30	4.70	Mymensingh.				
108	0.14	0.06	0.08	0.18	0.25	...	0.64	9	13.05	4.98	13.00	1.30	1.78	8.37	Jamalpur.				
109	...	0.20	0.50	...	...	0.30	0.30	11	13.78	6.70	15.00	1.40	1.80	6.58	Nitrikona.	Dacca.		
110	...	0.30	0.75	0.48	0.07	...	1.31	9	...	...	...	...	...	3.76	Sadarshakhal.			
111	...	0.31	0.00	0.43	0.01	0.03	1.03	9	10.30	8.10	11.53	2.43	2.94	7.03	Daryapur.				
112	1.00	0.64	0.19	...	...	1.00	0.32	10	10.12	8.44	8.63	1.99	5.44	4.06	Sherepur Tosen	Dacca.		
113	0.42	0.47	0.37	...	2.33	...	1.71	10	10.73	9.70	8.74	2.78	3.28	5.13	Madaripur	Faridpur.			
114	0.72	0.34	0.13	...	1.84	0.13	1.62	11	10.08	7.08	8.14	1.84	5.30	4.23	Faridpur.				
115	0.20	0.40	...	...	...	2.33	1.23	6	9.83	7.40	8.19	3.58	4.94	4.78	Paikhal	Backergunge.		
116	1.14	1.54	...	3.40	0.95	1.49	0.89	10	8.90	10.40	7.30	3.70	6.05	3.88	Paikhal				
117	1.00	0.54	...	1.13	0.90	2.13	0.47	10	10.03	8.00	8.00	3.16	7.43	4.30	Paikhal				
118	2.13	0.47	...	0.90	1.85	0.05	0.34	13	10.37	8.16	7.50	2.24	7.34	4.03	Paikhal				
119	1.33	0.37	0.01	0.41	0.45	2.24	0.40	13	10.37	8.16	7.50	2.24	7.34	4.03	Paikhal				
120	1.73	0.34	...	...	...	1.26	0.43	13	10.37	8.16	7.50	2.24	7.34	4.03	Paikhal			
121	0.88	0.23	0.70	...	...	3.01	0.78	8	8.00	8.71	8.17	3.04	6.41	5.15	Donnafra.			
122	...	...	...	...	...	3.0	...	...	...	...	...	...	...	...	...
123	1.20	1.08	...	1.03	...	0.55	0.60	11	12.00	10.34	11.40	3.39	6.94	5.65	Cowalla				
124	0.90	2.08	...	1.72	...	0.72	1.30	9	11.70	10.00	9.94	2.80	8.73	4.74	Chandpur.	Tippur.			
125	0.80	0.30	...	0.90	0.07	0.42	1.45	9	12.38	9.60	11.00	3.42	5.30	6.70	Brachmangala				
126	0.97	1.03	...	2.11	...	0.97	1.47	11	10.10	11.04	8.91	1.97	7.06	4.23	Ramchandrapur.				
127	0.80	...	0.13	...	1.50	1.90	0.70	12	10.30	...	13.46	...	0.37	...	Narainagar.				
128	0.54	...	0.37	...	1.01	0.42	...	10	9.60	8.16	8.28	1.80	5.78	5.13	Daudkandi.				
129	1.50	...	0.20	...	0.70	1.50	0.35	10	9.10	8.11	9.08	1.65	3.78	5.48	Katua.				
130	2.34	2.04	...	0.93	...	0.40	0.32	10	10.40	8.83	8.70	3.80	6.23	4.03	Laksmi.				
131	0.40	1.07	...	0.12	...	2.01	0.60	10	10.70	10.31	10.31	2.34	0.16	5.41	Noakhali				
132	1.41	0.84	...	0.44	...	1.13	1.03	7	10.16	8.19	11.28	2.04	4.44	5.71	Fenny.				
133	1.33	1.07	...	0.38	0.30	0.91	0.80	9	10.00	7.37	12.87	8.13	0.76	0.04	Harshpur.				
134	0.84	1.43	...	0.20	...	0.41	0.53	8	...	8.81	9.78	1.77	7.05	6.38	Ramganj.				
135	1.45	1.31	...	1.33	0.13	0.30	...	9	...	8.08	?	1.07	4.04	?	Chhagolaya.				
136	...	0.30	0.00	0.02	0.33	...	...	5	10.36	9.77	11.33	1.92	0.77	?	Hatya.			
137	0.62	1.55	0.13	0.83	0.48	...	...	6	10.08	9.37	10.48	1.65	3.70	4.50	Dux's Bazar			
138	1.01	1.04	...	...	0.38	...	...	8	8.60	4.35	12.13	1.04	2.42	4.38	Chikabong.	Chittagong.		
139	0.63	0.84	...	0.44	0.25	2.63	0.10	8	10.70	4.97	11.00	3.03	5.83	6.44	Kutubdia.				
140	0.27	1.31	...	1.11	...	0.78	1.08	10	10.41	7.78	12.70	1.33	5.50	7.43	Satkanya.				
141	1.33	0.65	0.80	0.25	0.47	0.03	...	9	...	?	?	1.33	3.16	?	Rodala.				
142	0.83	1.42	...	0.86	...	0.23	0.31	7	...	?	?	2.78	3.40	?	Fenola.				
143	0.07	0.34	0.08	0.70	...	...	...	6	12.18	3.23	11.38	0.93	1.99	5.41	Mingarai.			
144	...	0.41	0.05	1.23	0.10	...	...	6	...	4.63	?	1.92	2.53	?	Bangamati	Chittagong		
145	...	...	...	...	0.10	...	...	3	...	2.88	1.89	1.97	0.27	0.26	Bandarban	Chittagong		
146	...	...	...	...	0.34	...	...	3	...	2.38	1.88	1.64	0.44	0.44	Patna	Chittagong		
147	...	...	...	...	0.44	0.50	...	4	...	2.89	0.60	3.10	0.55	0.35	Dinapore.			
148	...	...	...	...	0.13	...	...	2	...	2.98	1.60	2.05	0.20	0.04	Barh.			
149	...	...	...	...	0.10	...	...	2	...	1.78	0.43	0.70	0.30	0.13	Bikram.			
150	...	...	...	...	0.12	...	...	1	...	3.44	0.30	2.13	0.26	0.15	Hilla.			
151	...	...	...	...	...	...	...	1	...	1.99	0.12	1.58	0.18	0.12	Azumabad	Gaya.		
152	...	...	...	...	...	...	...	1	...	2.44	NH	1.85	NH	NH	Gaya.			
153	...	...	...	...	...	...	...	1	...	2.03	0.80	1.76	NH	NH	Nawada.			
154	...	...	...	...	...	...	...	1	...	2.00	0.70	1.40	0.30	0.04	Jahanabad.			
155	...	...	...	...	...	...	...	1	...	1.70	0.38	1.18	0.38	0.28	Arrai.			
156	...	...	...	...	...	...	...	1	...	1.11	0.05	0.82	0.08	0.08	Bandhagar.			
157	...	...	...	...	...	...	...	1	...	1.30	NH	1.74	NH	NH	Sherghat.			
158	...	...	...	...	...	...	...	1	...	1.30	NH	1.35	NH	NH	Bojauli.			
159	...	...	...	...	...	...	...	1	...	2.08	0.24	0.91	0.24	0.03	Pakri Barwan.			
160	...	...	...	...	...	...	...	1	...	1.67	NH	0.98	NH	NH	Bazar.			
161	...	...	...	...	...	...	...	1	...	1.73	0.24	0.97	0.15	0.23	Dehri.			
162	...	...	...	...	...	...	...	1	...	2.07	NH	1.45	NH	NH	Shahbana.			
163	...	...	...	...	...	...	...	1	...	2.03	0.40	1.03	0.40	0.10	Sasaram.			
164	...	...	...	...	...	...	...	1	...	0.40	NH	0.61	NH	NH	Arrah.			
165	...	...	...	...	...	...	...	1	...	?	0.85	?	0.65	0.05	Mohangan.			
166	...	...	...	...	...	...	...	1	...	?	1.78	?	0.30	0.80	Khair.			
167	...	...	...	...	...	...	...	1	...	?	?	?	?	?	Agam.			
168	...	...	...	...	...	...	...	1	...	?	?	?	?	?	Ramagar.			
169	...	...	...	...	...	...	...	1	...	?	?	?	?	?	Koath.			
170	...	...	...	...	...	...	...	1	...	?	?	?	?	?	Sikrout.			
171	...	...	...	...	...	...	...	1	...	?	?	?	?	?	Barawan.			
172	...	...	...	...	...	...	...	1	...	?	?	?	?	?	Monaharpur			
173	...	...	...	...	...	...	...	1	...	?	?	?	?	?	Chausa.			
174	...	...	...	...	...	...	...	1	...	?	?	?	?	?	Gupalganj			
175	...	...	...	...	...	...	...	1	...	?	?	?	?	?	Siwan.			
176	...	...	...	...	...	...	...	1	...	?	?	?	?	?	Ekma.			
177	...	...	...	...	...	...	...	1	...	?	?	?	?	?	Chupra.			
178	...	...	...	...	...	...	...	1	...	?	?	?	?	?	Serepur			
179	...	...	...	...	...	...	...	1	...	?	?	?	?	?	Ansonpur			
180	...	...	...	...	...	...	...	1	...	?	?	?	?	?	Basantpur			
181	...	...	...	...	...	...	...	1	...	?	?	?	?	?	Darochia.			
182	...	...	...	...	...	...	...	1	...	?	?	?	?	?	Bharat.			
183	...	...	...	...	...	...	...	1	...	?	?	?	?	?	Motilhari			
184	...	...	...	...	...	...	...	1	...	?	?	?	?	?	Bottish.			
185	...	...	...	...	...	...	...	1	...	?	?	?	?	?	Baghia.			
186	...	...	...	...	...	...	...	1	...	?	?	?	?	?	Burhura.			
187	...	...	...	...	...	...	...	1	...	?	?	?	?	?	Raminagar.			
188	...	...	...	...	...	...	...	1	...	?	?	?	?	?	Graman.			
189	...	...	...	...	...	...	...	1	...	?	?	?	?	?	Musafarpur.			
190	...	...	...	...	...	...	...	1	...	?	?	?	?	?	Hajipur.			
191	...	...	...	...	...	...	...	1	...	?	?	?	?	?	Paru.			
192	...	...	...	...	...	...	...	1	...	?	?	?	?	?	Mahwa.			
193	...	...	...	...	...	...	...	1	...	?	?	?	?	?	Shihar.			
194	...	...	...	...	...	...	...	1	...	?	?	?	?	?	Papti.			
195	...	...	...	...	...									

Electrologist Division.	Division.	District.	Station.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
Bihar - continued.	Bhagalpur - continued.	Bhagalpur	Madihpura	...	...	...	...	0.13	...	0.50	...	0.57	0.56	...	...	...	...	...	...	...	...
			Bongson	...	...	...	...	...	...	0.53	...	0.50	0.43	...	...	...	...	...	...	...	...
			(Syabad).	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
			Rapali	...	...	...	...	0.08	...	1.00	...	0.51	0.53	...	...	...	...	...	...	...	...
			Protalgan	...	...	...	...	0.10	0.13	0.45	...	1.12	0.58	...	...	...	...	...	...	...	...
			Mhachapur	...	...	...	...	...	0.02	0.12	...	0.50	0.50	...	...	...	...	...	...	...	...
			Hanka	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
			Colong	...	...	...	...	...	...	...	...	1.17	0.55	...	...	...	...	...	...	...	...
			Barad	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
			Khatagani	...	...	...	...	0.71	0.58	0.08	...	...	...	...	...	...	...	...	...	...	...
Orissa.	Orissa.	Balasore	Barad	...	...	...	...	0.71	0.58	0.08	...	...	...	...	...	...	...	...	...	...	...
			Khatagani	...	...	...	...	0.58	1.23	0.73	...	0.15	0.41	...	...	...	...	...	...	...	...
			Barad	...	...	...	...	0.50	...	0.42	...	0.55	0.55	...	...	...	...	...	...	...	...
			Gondwara	...	...	...	...	0.50	...	0.73	...	1.24	...	...	...	...	...	...	...	...	...
			(Korah).	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
			Barad	...	...	...	...	0.08	1.05	...	0.57	...	0.15	...	...	...	...	...	...	...	...
			Porosganj	...	...	...	...	0.08	0.43	1.40	0.53	...	1.42	...	...	...	...	...	...	...	...
			Kalagan	...	...	...	...	...	0.10	0.12	0.40	...	...	...	...	...	...	...	...	...	...
			Malda	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
			Malda	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Orissa.	Orissa.	Balasore	Malda	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
			Malda	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
			Malda	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
			Malda	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
			Malda	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
			Malda	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
			Malda	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
			Malda	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
			Malda	...	...														

Legal in May 1898 — not used.

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120	121	122	123	124	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143	144	145	146	147	148	149	150	151	152	153	154	155	156	157	158	159	160	161	162	163	164	165	166	167	168	169	170	171	172	173	174	175	176	177	178	179	180	181	182	183	184	185	186	187	188	189	190	191	192	193	194	195	196	197	198	199	200	201	202	203	204	205	206	207	208	209	210	211	212	213	214	215	216	217	218	219	220	221	222	223	224	225	226	227	228	229	230	231	232	233	234	235	236	237	238	239	240	241	242	243	244	245	246	247	248	249	250	251	252	253	254	255	256	257	258	259	260	261	262	263	264	265	266	267	268	269	270	271	272	273	274	275	276	277	278	279	280	281	282	283	284	285	286	287	288	289	290	291	292	293	294	295	296	297	298	299	300	301	302	303	304	305	306	307	308	309	310	311	312	313	314	315	316	317	318	319	320	321	322	323	324	325	326	327	328	329	330	331	332	333	334	335	336	337	338	339	340	341	342	343	344	345	346	347	348	349	350	351	352	353	354	355	356	357	358	359	360	361	362	363	364	365	366	367	368	369	370	371	372	373	374	375	376	377	378	379	380	381	382	383	384	385	386	387	388	389	390	391	392	393	394	395	396	397	398	399	400	401	402	403	404	405	406	407	408	409	410	411	412	413	414	415	416	417	418	419	420	421	422	423	424	425	426	427	428	429	430	431	432	433	434	435	436	437	438	439	440	441	442	443	444	445	446	447	448	449	450	451	452	453	454	455	456	457	458	459	460	461	462	463	464	465	466	467	468	469	470	471	472	473	474	475	476	477	478	479	480	481	482	483	484	485	486	487	488	489	490	491	492	493	494	495	496	497	498	499	500	501	502	503	504	505	506	507	508	509	510	511	512	513	514	515	516	517	518	519	520	521	522	523	524	525	526	527	528	529	530	531	532	533	534	535	536	537	538	539	540	541	542	543	544	545	546	547	548	549	550	551	552	553	554	555	556	557	558	559	560	561	562	563	564	565	566	567	568	569	570	571	572	573	574	575	576	577	578	579	580	581	582	583	584	585	586	587	588	589	590	591	592	593	594	595	596	597	598	599	600	601	602	603	604	605	606	607	608	609	610	611	612	613	614	615	616	617	618	619	620	621	622	623	624	625	626	627	628	629	630	631	632	633	634	635	636	637	638	639	640	641	642	643	644	645	646	647	648	649	650	651	652	653	654	655	656	657	658	659	660	661	662	663	664	665	666	667	668	669	670	671	672	673	674	675	676	677	678	679	680	681	682	683	684	685	686	687	688	689	690	691	692	693	694	695	696	697	698	699	700	701	702	703	704	705	706	707	708	709	710	711	712	713	714	715	716	717	718	719	720	721	722	723	724	725	726	727	728	729	730	731	732	733	734	735	736	737	738	739	740	741	742	743	744	745	746	747	748	749	750	751	752	753	754	755	756	757	758	759	760	761	762	763	764	765	766	767	768	769	770	771	772	773	774	775	776	777	778	779	780	781	782	783	784	785	786	787	788	789	790	791	792	793	794	795	796	797	798	799	800	801	802	803	804	805	806	807	808	809	810	811	812	813	814	815	816	817	818	819	820	821	822	823	824	825	826	827	828	829	830	831	832	833	834	835	836	837	838	839	840	841	842	843	844	845	846	847	848	849	850	851	852	853	854	855	856	857	858	859	860	861	862	863	864	865	866	867	868	869	870	871	872	873	874	875	876	877	878	879	880	881	882	883	884	885	886	887	888	889	890	891	892	893	894	895	896	897	898	899	900	901	902	903	904	905	906	907	908	909	910	911	912	913	914	915	916	917	918	919	920	921	922	923	924	925	926	927	928	929	930	931	932	933	934	935	936	937	938	939	940	941	942	943	944	945	946	947	948	949	950	951	952	953	954	955	956	957	958	959	960	961	962	963	964	965	966	967	968	969	970	971	972	973	974	975	976	977	978	979	980	981	982	983	984	985	986	987	988	989	990	991	992	993	994	995	996	997	998	999	1000
																																Number of rainy days.	Average number of rainy days.	Total rainfall for the month.	Average rainfall for the month.	Highest rainfall during the month.	Total rainfall from 1st to 31st May 1908.	Excess rainfall from 1st to 31st May.	Station.	District.	Division.	Bhagalpur-division.		Orissa.		Orissa.		Orissa.		Orissa.		Orissa.		Orissa.		Orissa.		Orissa.		Orissa.		Orissa.		Orissa.		Orissa.		Orissa.		Orissa.		Orissa.		Orissa.		Orissa.		Orissa.		Orissa.		Orissa.		Orissa.		Orissa.		Orissa.		Orissa.		Orissa.		Orissa.		Orissa.		Orissa.		Orissa.		Orissa.		Orissa.		Orissa.		Orissa.		Orissa.		Orissa.		Orissa.		Orissa.		Orissa.		Orissa.		Orissa.		Orissa.		Orissa.		Orissa.		Orissa.		Orissa.		Orissa.		Orissa.		Orissa.		Orissa.		Orissa.		Orissa.		Orissa.		Orissa.		Orissa.		Orissa.		Orissa.		Orissa.		Orissa.		Orissa.		Orissa.		Orissa.		Orissa.		Orissa.		Orissa.		Orissa.		Orissa.		Orissa.		Orissa.		Orissa.		Orissa.		Orissa.		Orissa.		Orissa.		Orissa.		Orissa.		Orissa.		Orissa.		Orissa.		Orissa.		Orissa.		Orissa.		Orissa.		Orissa.		Orissa.		Orissa.		Orissa.		Orissa.		Orissa.		Orissa.		Orissa.		Orissa.		Orissa.		Orissa.		Orissa.		Orissa.		Orissa.		Orissa.		Orissa.		Orissa.		Orissa.		Orissa.		Orissa.		Orissa.		Orissa.		Orissa.		Orissa.		Orissa.		Orissa.		Orissa.		Orissa.		Orissa.		Orissa.		Orissa.		Orissa.		Orissa.		Orissa.		Orissa.		Orissa.		Orissa.		Orissa.		Orissa.		Orissa.		Orissa.		Orissa.		Orissa.		Orissa.		Orissa.		Orissa.		Orissa.		Orissa.		Orissa.		Orissa.		Orissa.		Orissa.		Orissa.		Orissa.		Orissa.		Orissa.		Orissa.		Orissa.		Orissa.		Orissa.		Orissa.		Orissa.		Orissa.		Orissa.		Orissa.		Orissa.		Orissa.		Orissa.		Orissa.		Orissa.		Orissa.		Orissa.		Orissa.		Orissa.		Orissa.		Orissa.		Orissa.		Orissa.		Orissa.		Orissa.		Orissa.		Orissa.		Orissa.		Orissa.		Orissa.		Orissa.		Orissa.		Orissa.		Orissa.		Orissa.		Orissa.		Orissa.		Orissa.		Orissa.		Orissa.		Orissa.		Orissa.		Orissa.		Orissa.		Orissa.		Orissa.		Orissa.		Orissa.		Orissa.		Orissa.		Orissa.		Orissa.		Orissa.		Orissa.		Orissa.		Orissa.		Orissa.		Orissa.		Orissa.		Orissa.		Orissa.		Orissa.		Orissa.		Orissa.		Orissa.		Orissa.		Orissa.		Orissa.		Orissa.		Orissa.		Orissa.		Orissa.		Orissa.		Orissa.		Orissa.		Orissa.		Orissa.		Orissa.		Orissa.		Orissa.		Orissa.		Orissa.		Orissa.		Orissa.		Orissa.		Orissa.		Orissa.		Orissa.		Orissa.		Orissa.		Orissa.		Orissa.		Orissa.		Orissa.		Orissa.		Orissa.		Orissa.		Orissa.		Orissa.		Orissa.		Orissa.		Orissa.		Orissa.		Orissa.		Orissa.		Orissa.		Orissa.		Orissa.		Orissa.		Orissa.		Orissa.		Orissa.		Orissa.		Orissa.		Orissa.		Orissa.		Orissa.		Orissa.		Orissa.		Orissa.		Orissa.		Orissa.		Orissa.		Orissa.		Orissa.		Orissa.		Orissa.		Orissa.		Orissa.		Orissa.		Orissa.		Orissa.		Orissa.		Orissa.		Orissa.		Orissa.		Orissa.		Orissa.		Orissa.		Orissa.		Orissa.		Orissa.		Orissa.		Orissa.		Orissa.		Orissa.		Orissa.		Orissa.		Orissa.																																																																																																																																																																																																																																																																																																																																																																																																	

**SUMMARY OF THE METEOROLOGICAL AND RAINFALL OBSERVATIONS
TAKEN IN BENGAL, AND OF THE METEOROLOGICAL OBSERVATIONS
TAKEN IN ASSAM, FOR THE MONTH OF MAY 1898.**

The chief features of the weather during May were—

(1) Pressure oscillated considerably during the month, especially in the first-half, when the oscillations were of considerable amplitude, while in the latter half the daily changes were generally small. The average pressure was slightly below the normal everywhere, the defect nowhere exceeding $\frac{1}{16}$ th of an inch.

(2) Temperature, which was generally high at the beginning of the month, fell steadily during the earlier part of May: subsequent changes were irregular, though the readings were as a rule above the normal till the end of the month, when owing to a further considerable fall there was a general defect.

The highest maximum temperatures were 113.7 in Chota Nagpur, 113.5 in Bihar, and 112.3 in Lower Bengal.

(3) Rainfall was generally below the normal except in Bihar. Defect was, however, small in Bengal Proper, but considerable in Orissa and Chota Nagpur. At no station was the total rainfall great, the highest being Jessore with 14.71 inches, while Dhubri gave 13.19, Cooch Bihar 12.73, Sibsagar 11.09, and Mymensingh, Noakhali and Comilla between 10 and 11 inches.

(4) Weather was distinguished by the unusual uniformity of distribution of pressure over the Bay and the marked absence of stormy weather. There was no early advance of the monsoon current which usually characterises the month, and the only disturbance recorded was a small depression which formed off Diamond Island on the 6th of May and passed northwards into Burma, causing general, though not heavy, rain in Burma and affecting also parts of East and North Bengal.

Showery weather prevailed over the province, except during the middle portion of the month, when the prevalence of westerly winds in Bihar and the west of Bengal caused a period of steady fine weather. During the latter part of the month, however, more normal winds prevailed, and local north-westerly, which, owing to adverse conditions had been comparatively rare in the earlier part of the season, increased in number and intensity.

At the beginning of the month pressure was very uniform over the Bay, and winds were south to south-east over the province. Temperature was high throughout, excess amounting to as much as 7° in the northern provinces, while ordinary hot-weather conditions prevailed. On the 2nd there was a moderate fall of pressure throughout; but as the fall was greatest in the north-west of the province, gradients became steeper over Bengal in the northern districts. On the 3rd conditions remained practically unaltered, and though temperature now began to fall at western stations, there was a large excess over the normal. Over the Bay no indications of possible disturbance were apparent, although the wind changed round at Diamond Island to the north-east. Temperature continued to fall during the next two days, and rainfall became slightly more general. The north-easterly winds which had continued steadily at the Burma stations began to increase in strength, and this, taken in conjunction with the rapidly falling barometer in that region, seemed to point to the probable formation of a local disturbance. These conditions led to the development on the 6th of a cyclonic storm of considerable severity, the force of the wind at Diamond Island rising to 30 miles an hour. The storm moved in a northerly direction and finally crossed the Burma coast to the south of Akyab on the 7th. A moderate amount of rain accompanied its transit into Burma on that day, and heavier falls followed in its wake on the two subsequent days, its influence making itself felt as far as North and East Bengal; and though the actual depression filled up very quickly, its effects did not entirely disappear till the 11th of the month.

Among other effects due to the disturbance may be noted a general fall of temperature which extended to almost all parts of the province, and which continued till about the 12th of the month, on which date we find that the mean temperature had at last been reduced to a level approximately to the normal.

From this date, however, a change came over the conditions hitherto prevailing. Pressure rose over the whole area on the 13th. The character of the rise, diminishing as it did from the north-west towards the south-east, was such as to bring about a remarkably even distribution over the whole of the Bay, the difference between the pressure in the south of the Bay and that over the land area of Bengal being unusually small. The area of relatively lowest pressure was by this redistribution pushed gradually to the north, and the consequent effect was the ushering in of dry west winds, and the gradual introduction of fine hot weather into the province. These conditions were fully formed by the 14th or 15th of the month, and with the easy gradients and consequently light winds prevailing, weather assumed a settled character. Temperature naturally increased during this period, and though night temperature diminished to a slight extent in Bengal at the first advance of the dry west wind, the upward tendency soon affected them as well, excess reaching ultimately some 3° in their case, while for day temperature it amounted to as much as 10°.

Local storms disappeared almost entirely under these adverse conditions, while rain was practically confined to Burma. During this period of fine weather there were frequent oscillations of pressure, but the range was exceedingly small. The distribution, however, underwent a gradual change, and from running almost due east and west, the isobars gradually began to take a direction more normal to this period of the year, i.e., from south-west to north-east. Extremely light gradients, however, still prevailed, and the line of relatively lowest pressure practically encircled the whole of the province, thus giving continued existence to the westerly winds in Bihar.

From the 23rd, however, the gradients began to become steeper owing to rising pressure in the south, and the area of lowest pressure being thus gradually forced westward, the ordinary winds of this season i.e., south-east to east, began to set in. Pressure continued to rise steadily but irregularly up to the 28th, gradients becoming *pari passu* steeper throughout the province, and this with the unevenness of the distribution gave rise to strong local winds. The excess above the normal on the 27th varied from 86 to 164 thousands of an inch. During the latter portion of the month local storms were, owing to the favourable conditions obtaining, extremely prevalent, and partook for the most part of the true character of north-westerns.

A steady fall of temperature naturally accompanied the other conditions of this latter period, and on the 27th readings were almost everywhere in considerable defect. On the 28th then the conditions of pressure were high pressure everywhere with steep gradients over the province, and a uniform distribution, which had been maintained throughout, over the Bay. On the 29th a complete change set in. Pressure collapsed over the whole area, but by amounts diminishing from north to south, so that the distribution became more uniform over the province than it was before. A further fall on the next day re-established the previous inclinations, and a small rise on the 31st left the gradients as before with, however, a general pressure approaching as closely as possible to the normal. Considerable rain fell during the last three days of the month, and temperature was in considerable defect at the end of the month.

It will thus be seen that the month divides itself naturally into three periods of almost equal length. During the first there was a general fall of pressure; winds were easterly in direction, and showers were fairly prevalent, while temperature which had been in large excess at the beginning fell. During the second period after a small initial rise, pressure changes were slight; winds were westerly; fine hot weather prevailed, and there was an almost complete absence of local storms. During the third period the barometer rose steadily till within a few days before the end of the month. Winds again became easterly, and temperature fell steadily, while local storms grew more numerous and intense.

Pressure changed rapidly at the beginning and the end of the month. In both cases the change was a fall. After the disturbance on the 6th and 7th pressure rose moderately, and during the period of fine weather in the middle of the month, it remained practically steady, while during the third period it rose continuously up to the 29th, when the fall mentioned above took place. On the whole average pressure for the month was below the normal at all stations.

Temperature fell during the first and third periods and rose during the second. At the beginning of the month it was excessive except at one or two stations, the greatest excess being in the north of the province, and amounting to over 11 degrees at Bhagalpur. At the end of the month, on the other hand, there was general defect except in Burma, whence slightly excess readings were reported. The greatest defect was in the north-west, the temperature in North Bihar being generally over 10° below the normal. Average mean temperature for the month was, however, in excess at all stations except Motihari and Sibangar, where there was a deficiency in each case of less than 1°.

The variation in mean temperature was due to high day rather than night temperature, the average of the latter was in considerable excess only in Chota Nagpur and was actually in defect over Bihar and parts of North Bengal.

Rainfall has on the whole not been much below the average, while in the case of Bihar there has been actual excess by .001 inch. In East Bengal it has averaged about 80 per cent., while in North and South-West Bengal it amounts to nearly 90 per cent. In Orissa and Chota Nagpur, however, the rainfall has been considerably below the average, being nearly $\frac{2}{3}$ in the former and $\frac{1}{2}$ in the latter district.

The following table gives full data for comparison of the actual and normal rainfall of the month of May for all districts of the province. The figures are derived from the average and actual rainfall of the rain-reporting stations in each district, due allowance being made for the area which each station represents. This gives a more accurate average than the arithmetical means given in the monthly tables. The first column gives the normal or average district rainfall as determined from the observations of the past 25 years. The second column gives the actual district rainfall as determined from the weighted actual rainfall of the month at the reporting stations in each district. The third column expresses the ratio of the actual district rainfall of the past month to the normal rainfall as a percentage. The fourth column gives the same information as the third in a slightly different form.

stating as a percentage how much the district rainfall of the month varied in excess or defect from the normal:—

Percentage Table for May 1898.

Division.	District.	Normal district rainfall day.	Actual district rainfall for May 1898.	Percentage of actual to normal rainfall.	Percentage excess (+), defect (-).
South-West Bengal	Burdwan	5.01	2.85	56	-44
	Birbhum	4.03	4.63	112	+12
	Bankura	4.79	2.24	47	-53
	Midnapore	5.13	2.59	49	-51
	Hooghly	6.32	7.36	188	+88
	Howrah	6.65	2.48	45	-55
	24-Parganas	5.8	4.51	84	-20
	Calcutta	5.43	4.06	76	-26
	Nadia	6.48	7.31	119	+18
	Murshidabad	5.07	5.52	109	+9
	Jessore	7.16	10.55	149	+49
	Khulna	6.49	9.50	146	+46
	Rajshahi	6.15	6.39	104	+4
	Dinajpur	7.41	8.88	91	+7
North Bengal	Jalpaiguri	13.14	13.04	99	-1
	Darjeeling	8.24	6.26	76	-24
	Cooch Behar	14.43	12.84	89	-11
	Rangpur	10.61	6.67	63	-37
	Bogra	7.98	8.61	108	+8
	Pabna	7.75	6.68	86	-14
	Dacca	9.67	8.87	93	-7
	Mymensingh	11.11	...	...	...
	Faridpur	8.67	8.67	101	+1
	Backergunge	7.96	9.42	118	+18
East Bengal	Tippera	10.65	...	...	...
	Noakhali	10.48	10.03	96	-6
	Chittagong	10.84	4.70	43	-57
	Ditto Hills Tracts	11.34	3.25	29	-71
	Patna	2.04	1.05	51	-49
	Gaya	1.36	0.12	9	-91
	Shahabad	1.09	0.17	16	-84
	Saran	1.75	...	...	...
	Champaran	2.82	3.55	126	+26
	Muzaffarpur	2.24	3.83	171	+71
Bihar	Darbhanga	2.65	4.27	161	+61
	Monghyr	2.53	3.61	108	+8
	Bhagalpur	3.38	...	...	...
	Purnea	5.29	...	...	...
	Malda	4.30	4.28	99	-1
	Southern Parganas	3.71	1.97	53	-47
	Cuttack	4.84	2.78	58	-42
Orissa	Balasore	5.45	...	...	...
	Puri	3.28	...	...	...
	Hazaribagh	2.43	0.23	9	-91
Chota Nagpur	Lohardaga	2.17	0.56	26	-74
	Palamanu	1.19	0.16	14	-86
	Manthuan	3.21	...	...	...
	Singbhum	3.83	2.61	68	-32

The following table gives the summary of the temperature and rainfall data of each of the seven meteorological divisions of the Province for the month of May 1898:—

METEOROLOGICAL DIVISIONS.	TEMPERATURE.						RAINFALL.							
	Highest observed during month.	Lowest observed during month.	Averages for month.			Average mean of month above or below normal mean of month.	Of month.		Rainy days.			Rain on 16th May 1904.		
			Of highest of each day.	Of lowest of each day.	Of mean for each day.		Average.	Normal average.	Variation.	Average number in month.	Normal average number in month.		Variation.	
South-West Bengal	112.8	66.3	86.5	73.3	80.1	+2.1	5.01	5.72	-0.71	6.39	7.34	-1.05	2.61	3.37
North Bengal	106.0	66.1	82.3	73.4	80.0	+1.1	8.17	9.35	-1.08	10.03	10.18	-0.10	3.53	3.79
East "	102.8	65.9	82.7	75.7	84.2	+1.9	8.14	10.16	-2.02	9.15	10.72	-1.57	5.05	5.54
Bihar	113.6	66.3	101.4	76.8	88.7	+1.2	2.73	2.72	+0.01	4.25	3.07	+0.68	1.44	1.77
Orissa	108.5	67.5	85.1	80.0	82.8	+1.0	3.83	4.66	-1.15	4.80	5.18	-0.38	1.33	2.10
Chota Nagpur	113.7	67.8	103.1	77.5	90.3	+2.5	1.31	2.78	-1.47	2.76	3.08	-0.32	0.69	1.33
Assam	100.1	66.7	80.2	72.6	80.0	+1.4								

* Daitongari not included.

METEOROLOGICAL OFFICE, BOMBAY,
The 14th June 1898.

G. W. KÜHLER,
Offg. Meteorological Reporter to the Govt. of Bengal.

Results of the Barometrical and Thermometrical Observations taken at the Meteorological Office, Chowringhee, from 5th to 11th June 1898.

MONTH.	Date.	Pressure at 10 A.M. corrected and reduced to 32° Fahr.	TEMPERATURE.					HYGROMETRY.			Rainfall, last 24 hours.	
			Daily mean.	Maximum.	Range.	Minimum.	Dry bulb at 10 A.M.	Wet bulb at 10 A.M.	Vapour tension at 10 A.M.	Dew point at 10 A.M.		Humidity at 10 A.M.
1898.		Inches.	°	°		°	°	°	Inches.	°	%	Inches.
Jun	5th	29.608	87.7	97.6	19.7	77.8	88.2	81.5	.981	78.7	73	...
"	6th	" 538	87.4	92.6	10.2	82.2	82.4	85.0	1.104	82.2	72	...
"	7th	" 600	84.2	91.0	13.7	77.3	87.1	82.0	1.026	80.0	80	0.32
"	8th	" 628	87.0	94.2	14.4	79.8	89.6	82.3	1.003	79.8	72	...
"	9th	" 614	85.2	90.3	10.3	80.0	87.6	83.3	1.037	82.1	88	...
"	10th	" 691	85.6	91.2	11.4	79.8	88.1	81.5	.989	78.0	74	...
"	11th	" 632	87.6	96.8	16.5	79.8	89.6	83.3	1.090	81.1	70	0.45

The mean 10 A.M. pressure of the seven days 29.601

The mean temperature of the seven days 86.4

The extreme variation of temperature 20.2

The maximum temperature 97.6

The mean 10 A.M. relative humidity of the seven days 76

The total fall of rain from 5th to 11th June 1898 0.77

The daily mean temperatures are the crude means of maximum and minimum temperatures.

METEOROLOGICAL OFFICE, BENGAL,

The 15th June 1898.

G. W. KÜCHLER,

Offg. Meteorological Reporter to the Govt. of Bengal.

Vital Statistics of the Districts of Bengal for the month of April 1893.

[illegible]

Districts.	No.	BIRTHS.			Population under 15 years.	DEATHS.			MARRIAGES.			OTHER CAUSES.			TOTAL OF ALL CAUSES.			AVERAGE OF CORRESPONDING MONTHS OF PREVIOUS FIFTY YEARS.			REMARKS.
		Number.	Ratio per 1,000 per annum.	Number.		Ratio per 1,000 per annum.	Number.	Ratio per 1,000 per annum.	Number.	Ratio per 1,000 per annum.	Number.	Ratio per 1,000 per annum.	Number.	Ratio per 1,000 per annum.	Number.	Ratio per 1,000 per annum.	Number.	Ratio per 1,000 per annum.			
1. Bardhaman	1	57	19.50	13	4.44	20	6.96	57	19.50	13	4.44	20	6.96	57	19.50	13	4.44	20	6.96		
2. Hooghly	2	60	21.64	16	5.88	24	8.88	60	21.64	16	5.88	24	8.88	60	21.64	16	5.88	24	8.88		
3. Howrah	3	61	22.09	17	6.11	25	9.00	61	22.09	17	6.11	25	9.00	61	22.09	17	6.11	25	9.00		
4. Medinipur	4	62	22.54	18	6.44	26	9.33	62	22.54	18	6.44	26	9.33	62	22.54	18	6.44	26	9.33		
5. Murshidabad	5	63	22.99	19	6.77	27	9.66	63	22.99	19	6.77	27	9.66	63	22.99	19	6.77	27	9.66		
6. Nadia	6	64	23.44	20	7.11	28	10.00	64	23.44	20	7.11	28	10.00	64	23.44	20	7.11	28	10.00		
7. North Barrackpore	7	65	23.89	21	7.44	29	10.33	65	23.89	21	7.44	29	10.33	65	23.89	21	7.44	29	10.33		
8. South Barrackpore	8	66	24.34	22	7.77	30	10.66	66	24.34	22	7.77	30	10.66	66	24.34	22	7.77	30	10.66		
9. West Bengal	9	67	24.79	23	8.11	31	11.00	67	24.79	23	8.11	31	11.00	67	24.79	23	8.11	31	11.00		
10. Calcutta	10	68	25.24	24	8.44	32	11.33	68	25.24	24	8.44	32	11.33	68	25.24	24	8.44	32	11.33		
11. Dacca	11	69	25.69	25	8.77	33	11.66	69	25.69	25	8.77	33	11.66	69	25.69	25	8.77	33	11.66		
12. Chittagong	12	70	26.14	26	9.11	34	12.00	70	26.14	26	9.11	34	12.00	70	26.14	26	9.11	34	12.00		
13. Dhaka	13	71	26.59	27	9.44	35	12.33	71	26.59	27	9.44	35	12.33	71	26.59	27	9.44	35	12.33		
14. Faridkot	14	72	27.04	28	9.77	36	12.66	72	27.04	28	9.77	36	12.66	72	27.04	28	9.77	36	12.66		
15. Gurgaon	15	73	27.49	29	10.11	37	13.00	73	27.49	29	10.11	37	13.00	73	27.49	29	10.11	37	13.00		
16. Haryana	16	74	27.94	30	10.44	38	13.33	74	27.94	30	10.44	38	13.33	74	27.94	30	10.44	38	13.33		
17. Jalandhar	17	75	28.39	31	10.77	39	13.66	75	28.39	31	10.77	39	13.66	75	28.39	31	10.77	39	13.66		
18. Ludhiana	18	76	28.84	32	11.11	40	14.00	76	28.84	32	11.11	40	14.00	76	28.84	32	11.11	40	14.00		
19. Patiala	19	77	29.29	33	11.44	41	14.33	77	29.29	33	11.44	41	14.33	77	29.29	33	11.44	41	14.33		
20. Sangrur	20	78	29.74	34	11.77	42	14.66	78	29.74	34	11.77	42	14.66	78	29.74	34	11.77	42	14.66		
21. Tarn Taran	21	79	30.19	35	12.11	43	15.00	79	30.19	35	12.11	43	15.00	79	30.19	35	12.11	43	15.00		
22. Wazirpur	22	80	30.64	36	12.44	44	15.33	80	30.64	36	12.44	44	15.33	80	30.64	36	12.44	44	15.33		
23. Yamuna	23	81	31.09	37	12.77	45	15.66	81	31.09	37	12.77	45	15.66	81	31.09	37	12.77	45	15.66		
24. Patna	24	82	31.54	38	13.11	46	16.00	82	31.54	38	13.11	46	16.00	82	31.54	38	13.11	46	16.00		
25. Gaya	25	83	31.99	39	13.44	47	16.33	83	31.99	39	13.44	47	16.33	83	31.99	39	13.44	47	16.33		
26. Bhagalpur	26	84	32.44	40	13.77	48	16.66	84	32.44	40	13.77	48	16.66	84	32.44	40	13.77	48	16.66		
27. Champaran	27	85	32.89	41	14.11	49	17.00	85	32.89	41	14.11	49	17.00	85	32.89	41	14.11	49	17.00		
28. Muzaffarpur	28	86	33.34	42	14.44	50	17.33	86	33.34	42	14.44	50	17.33	86	33.34	42	14.44	50	17.33		
29. Darbhanga	29	87	33.79	43	14.77	51	17.66	87	33.79	43	14.77	51	17.66	87	33.79	43	14.77	51	17.66		
30. Munger	30	88	34.24	44	15.11	52	18.00	88	34.24	44	15.11	52	18.00	88	34.24	44	15.11	52	18.00		
31. Bhadrabad	31	89	34.69	45	15.44	53	18.33	89	34.69	45	15.44	53	18.33	89	34.69	45	15.44	53	18.33		
32. Patna	32	90	35.14	46	15.77	54	18.66	90	35.14	46	15.77	54	18.66	90	35.14	46	15.77	54	18.66		
33. Gaya	33	91	35.59	47	16.11	55	19.00	91	35.59	47	16.11	55	19.00	91	35.59	47	16.11	55	19.00		
34. Patna	34	92	36.04	48	16.44	56	19.33	92	36.04	48	16.44	56	19.33	92	36.04	48	16.44	56	19.33		
35. Patna	35	93	36.49	49	16.77	57	19.66	93	36.49	49	16.77	57	19.66	93	36.49	49	16.77	57	19.66		
36. Patna	36	94	36.94	50	17.11	58	20.00	94	36.94	50	17.11	58	20.00	94	36.94	50	17.11	58	20.00		
37. Patna	37	95	37.39	51	17.44	59	20.33	95	37.39	51	17.44	59	20.33	95	37.39	51	17.44	59	20.33		
38. Patna	38	96	37.84	52	17.77	60	20.66	96	37.84	52	17.77	60	20.66	96	37.84	52	17.77	60	20.66		
39. Patna	39	97	38.29	53	18.11	61	21.00	97	38.29	53	18.11	61	21.00	97	38.29	53	18.11	61	21.00		
40. Patna	40	98	38.74	54	18.44	62	21.33	98	38.74	54	18.44	62	21.33	98	38.74	54	18.44	62	21.33		
41. Patna	41	99	39.19	55	18.77	63	21.66	99	39.19	55	18.77	63	21.66	99	39.19	55	18.77	63	21.66		
42. Patna	42	100	39.64	56	19.11	64	22.00	100	39.64	56	19.11	64	22.00	100	39.64	56	19.11	64	22.00		
43. Patna	43	101	40.09	57	19.44	65	22.33	101	40.09	57	19.44	65	22.33	101	40.09	57	19.44	65	22.33		
44. Patna	44	102	40.54	58	19.77	66	22.66	102	40.54	58	19.77	66	22.66	102	40.54	58	19.77	66	22.66		
45. Patna	45	103	40.99	59	20.11	67	23.00	103	40.99	59	20.11	67	23.00	103	40.99	59	20.11	67	23.00		
46. Patna	46	104	41.44	60	20.44	68	23.33	104	41.44	60	20.44	68	23.33	104	41.44	60	20.44	68	23.33		
47. Patna	47	105	41.89	61	20.77	69	23.66	105	41.89	61	20.77	69	23.66	105	41.89	61	20.77	69	23.66		
48. Patna	48	106	42.34	62	21.11	70	24.00	106	42.34	62	21.11	70	24.00	106	42.34	62	21.11	70	24.00		
49. Patna	49	107	42.79	63	21.44	71	24.33	107	42.79	63	21.44	71	24.33	107	42.79	63	21.44	71	24.33		
50. Patna	50	108	43.24	64	21.77	72	24.66	108	43.24	64	21.77	72	24.66	108	43.24	64	21.77	72	24.66		
51. Patna	51	109	43.69	65	22.11	73	25.00	109	43.69	65	22.11	73	25.00	109	43.69	65	22.11	73	25.00		
52. Patna	52	110	44.14	66	22.44	74	25.33	110	44.14	66	22.44	74	25.33	110	44.14	66	22.44	74	25.33		
53. Patna	53	111	44.59	67	22.77	75	25.66	111	44.59	67	22.77	75	25.66	111	44.59	67	22.77	75	25.66		
54. Patna	54	112	45.04	68	23.11	76	26.00	112	45.04	68	23.11	76	26.00	112	45.04	68	23.11	76	26.00		
55. Patna	55	113	45.49	69	23.44	77	26.33	113	45.49	69	23.44	77	26.33	113	45.49	69	23.44	77	26.33		
56. Patna	56	114	45.94	70	23.77	78	26.66	114	45.94	70	23.77	78	26.66	114	45.94	70	23.77	78	26.66		
57. Patna	57	115	46.39	71	24.11	79	27.00	115	46.39	71	24.11	79	27.00	115	46.39	71	24.11	79	27.00		
58. Patna	58	116	46.84	72	24.44	80	27.33	116	46.84	72	24.44	80	27.33	116	46.84	72	24.44	80	27.33		
59. Patna	59	117	47.29	73	24.77	81	27.66	117	47.29	73	24.77	81	27.66	117	47.29	73	24.77	81	27.66		
60. Patna	60	118	47.74	74	25.11	82	28.00	118	47.74	74	25.11	82	28.00	118	47.74	74	25.11	82	28.00		
61. Patna	61	119	48.19	75	25.44	83	28.33	119	48.19	75	25.44	83	28.33	119	48.19	75	25.44	83	28.33		
62. Patna	62	120	48.64	76	25.77	84	28.66	120	48.64	76	25.77	84	28.66	120	48.64	76	25.77	84	28.66		
63. Patna	63	121	49.09	77	26.11	85	29.00	121	49.09	77	26.11	85	29.00	121	49.09	77	26.11	85	29.00		
64. Patna	64	122	49.54	78	26.44	86	29.33	122	49.54	78	26.44	86	29.33	122	49.54	78	26.44	86	29.33		
65. Patna	65	123	49.99	79	26.77	87	29.66	123	49.99	79	26.77	87	29.66	123	49.99	79	26.77	87	29.66		
66. Patna	66	124	50.44	80	27.11	88	30.00	124	50.44	80	27.										

H. J. DYSON, Surgeon-Major, F.R.C.S.,
Sanitary Commissioner for Bengal.

OFFICE OF SANITARY COMMISSIONER FOR BENGAL.
The 11th June 1898.

Supplementary Vital Statistics of District for March 1898, received too late for publication with the figures of that month on the 20th May 1898.

Districts.	Population under registration.	BIRTHS.		DEATHS.																AVERAGE OF CORRESPONDING MONTHS OF PREVIOUS FIVE YEARS.	
		Number registered.	Ratio per 1,000 of population per annum.	Cholera.	Small-pox.		Typh.	Dysentery and Diarrhoea.		Injury.		Other causes.		Total of all causes.		Number registered.	Ratio per 1,000 of population per annum.				
					Number registered.	Ratio per 1,000 of population per annum.		Number registered.	Ratio per 1,000 of population per annum.	Number registered.	Ratio per 1,000 of population per annum.	Number registered.	Ratio per 1,000 of population per annum.	Number registered.	Ratio per 1,000 of population per annum.			Number registered.	Ratio per 1,000 of population per annum.		
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	
Bhagulpur ..	Purba	1,344,628	7,441	45.54	825	1.27	2,271	1.65	5,040	39.76	11	5.06	20	.19	253	1.44	5,631	34.65	5,630	34.64	
	Total for the whole Province ..	71,009,517	191,264	26.85	4,331	1.06	116,857	16.45	116,857	16.45	48	.68	1,896	.26	25,199	3.54	153,813	21.23	178,134	25.09	
	Average of corresponding months of previous five years.	..	241,650	40.89	1,976	.74	159,486	21.94	159,486	21.94	1,356	.19	56,375	.35	36,375	4.33	178,884	30.19	..	..
	Difference + or - .. .. .	..	-40,416	-6.53	-9,166	-1.68	-12,633	-9.14	-12,633	-9.14	-186	-2.6	+191	+2.9	-3,176	-4.8	-25,661	-3.90	-	-

OFFICE OF SANITARY COMMISSIONER FOR BENGAL,
The 11th June 1898.

H. J. DYSON, Surgeon-Major, F.R.C.S.,
Sanitary Commissioner for Bengal.

CIRCULAR AND EASTERN CANALS.

Approximate return of traffic for the week ending Saturday, the 4th June 1898, as compared with the corresponding week of the previous year.

NATURE & CARGO.	WEEK ENDING SATURDAY, THE 4TH JUNE 1898.			WEEK ENDING SATURDAY, THE 27TH JUNE 1897.		
	Number of boats.	Weight of cargo.	Tollage.	Number of boats.	Weight of cargo.	Tollage.
	No.	Mds.	Rs.	No.	Mds.	Rs.
Rice and paddy	96	23,786	924	186	45,184	548
Jute	8	10,745	160	16	7,900	112
Firewood	72	76,160	1,188	63	45,806	679
Other articles	308	1,02,795	1,406	603	1,83,606	2,453
Total	614	2,12,476	3,078	808	2,81,904	3,792

CIRCULAR AND EASTERN CANALS.

Approximate return of traffic for the week ending Saturday, the 11th June 1898, as compared with the corresponding week of the previous year.

NATURE OF CARGO.	WEEK ENDING SATURDAY, THE 11TH JUNE 1898.			WEEK ENDING SATURDAY, THE 12TH JUNE 1897.		
	Number of boats.	Weight of cargo.	Tollage.	Number of boats.	Weight of cargo.	Tollage.
	No.	Mds.	Rs.	No.	Mds.	Rs.
Rice and paddy	158	20,480	356	211	75,155	1,223
Jute	11	4,025	77	25	14,225	234
Firewood	21	18,000	199	92	78,500	1,200
Other articles	464	1,67,225	2,184	680	2,30,160	3,327
Total	664	1,95,330	2,716	994	3,58,030	6,044

EAST INDIAN RAILWAY.

Statement of Goods Traffic in staples carried during the four weeks ending 23rd April 1898, as compared with the same period of 1897.

STAPLES.	1897.		1898.		INCREASE.		DECREASE.	
	Weight.	Freight.	Weight.	Freight.	Weight.	Freight.	Weight.	Freight.
	Mds.	Rs.	Mds.	Rs.	Mds.	Rs.	Mds.	Rs.
Coal & Coke carried for the public and foreign railways	75,46,479	8,02,441	77,80,138	10,47,490	2,33,659	1,65,048	—	—
Cotton, raw	1,38,892	89,023	87,250	51,778	—	—	41,312	37,145
Cotton, manufactured—								
1.—Twist & Yarn, European	8,414	6,570	5,120	5,328	—	—	3,294	1,242
2.—Ditto Indian	58,549	13,333	23,030	10,832	—	—	35,519	2,501
3.—Piece-goods—European	1,71,145	1,74,349	2,14,808	2,34,216	43,663	60,710	—	—
4.—Ditto Indian	21,089	10,659	20,022	11,373	—	514	107	—
Drugs and Chemicals—								
1.—Intoxicating, other than opium	306	270	940	171	—	—	57	16
2.—Non-intoxicating	10,938	8,730	10,306	7,461	—	—	792	1,269
Dyes and Tans—								
1.—Indigo	1,050	871	821	861	—	—	730	512
2.—Myrabolanine	11,104	2,903	17,342	4,323	5,038	1,926	—	—
3.—Nutch	3,615	1,031	1,840	866	—	—	1,786	766
4.—Turmeric	11,708	8,304	17,470	13,011	5,762	5,207	—	—
5.—Aniline dye	114	80	206	384	152	284	—	—
6.—Others	2,083	1,330	3,461	2,002	2,678	712	—	—
Grain and Pulse—								
1.—Wheat	3,66,040	61,089	10,15,558	3,03,683	6,49,518	2,10,700	—	—
2.—Rice in the husk	1,84,944	52,038	10,187	7,333	—	—	80,807	31,12
3.—Rice not in the husk	14,00,004	4,92,043	7,20,000	1,34,211	—	—	7,79,004	3,57,832
4.—Jowar and bajra	6,006	136	15,283	1,845	9,187	809	—	—
5.—Gram & pulse	4,16,745	1,14,209	3,44,705	84,043	—	—	1,34,009	29,16
6.—Others	1,12,034	19,378	64,078	14,781	—	—	66,016	4,78
Hides and Skins—								
1.—Hides of cattle	80,294	15,702	53,824	36,744	—	—	26,470	18,45
2.—Skins of sheep, &c.	14,745	4,083	15,005	5,440	—	1,525	1,700	—
Horae	1,335	867	2,001	904	766	—	—	—
Iron—								
1.—Raw	70,350	39,773	87,000	18,402	17,640	720	—	—
2.—Gunny-bags and cloth	72,018	34,655	1,70,200	94,155	98,182	61,700	—	—
Lead—								
1.—Stick	20,102	2,102	14,534	5,002	—	—	5,568	80
2.—Sheet	30,385	20,065	18,344	14,457	—	—	11,041	5,62
Leather, manufactured	4,039	4,761	5,270	5,760	1,036	1,018	—	—
Liquors—								
1.—Beer	13,001	4,124	6,185	3,548	—	—	7,774	5,6
2.—Spirits	1,384	5,330	1,132	1,715	—	—	722	26
3.—Wines	2,582	5,007	2,014	4,109	38	172	—	—
Metals—								
1.—Copper, unwrought	624	871	400	496	—	—	224	76
2.—Brass, ditto	1,050	502	1,952	1,716	902	551	—	—
3.—Copper, wrought	1,013	1,434	1,205	1,205	—	—	704	206
4.—Brass, ditto	15,640	7,014	16,798	7,036	1,158	361	—	—
5.—Iron	2,38,519	56,601	1,45,008	45,210	9,504	—	11,480	1,480
6.—Others	18,129	18,020	20,247	7,883	—	—	2,882	1,335
7.—Zinc & spelter	741	681	2,033	1,471	1,372	972	—	—
Oils—								
1.—Kerosine	91,081	31,901	80,632	34,089	—	—	4,449	2,75
2.—Castor	3,303	1,024	3,043	1,034	275	—	—	—
3.—Cocoanut	6,019	2,346	5,187	1,634	—	—	1,782	1,782
4.—Others	10,744	5,500	15,864	8,227	5,120	1,067	—	—
Oil-seeds—								
1.—Linseed	2,35,223	61,008	6,36,783	1,32,470	5,00,760	70,868	—	—
2.—Rape and mustard	6,51,391	1,41,033	7,10,094	2,10,600	58,000	68,633	—	—
3.—Til or popli	12,081	1,111	22,461	4,807	10,380	2,696	—	—
4.—Poppy	7,070	20,149	30,327	9,320	—	—	23,743	10,30
5.—Earthnuts	—	—	80	27	80	27	—	—
6.—Castor	1,39,453	30,150	92,567	23,178	—	—	46,886	7,06
7.—Others	161	83	27,237	5,022	27,076	2,900	—	—
Optics	18,300	10,248	27,432	11,000	9,132	1,600	—	—
Paper and pasteboard	16,774	7,738	17,858	9,064	1,084	1,140	—	—
Provisions—								
1.—Wheat	32,510	16,817	28,404	20,308	4,106	7,511	—	—
2.—Dried fruits and nuts	8,134	5,343	11,209	6,050	3,075	710	—	—
3.—Others	62,307	20,086	60,498	23,130	—	—	1,809	691
4.—Potatoes	54,194	13,820	83,033	14,418	27,839	592	—	—
Railway plant & rolling-stock carried for the public & foreign railways—								
1.—Locomotive engines & tenders & parts	—	—	—	—	—	—	—	—
2.—Carriages & trucks & parts thereof	2,403	696	3,421	906	1,018	409	—	—
3.—Steel rails & fish-plates	1,97,292	30,682	30,910	7,128	—	—	1,66,382	23,554
4.—Sleepers & keys of steel & cast iron	7	6	—	—	—	—	2,80,710	47,000
5.—Other parts	5,20,271	72,463	1,02,485	14,407	—	—	38,386	15,190
Salt	4,13,685	86,335	3,74,349	71,148	—	—	—	—
Salt-petre, &c.—								
1.—Salt-petre	67,853	24,328	62,240	23,176	—	—	5,613	1,853
2.—Other saline substances	20,650	2,680	57,329	11,875	11,443	2,217	—	—
Silk, raw—								
1.—Foreign	—	—	—	—	—	—	—	—
2.—Indian	1,563	734	1,720	1,334	157	600	—	—
Silk piece-goods—								
1.—Foreign	—	—	—	—	—	—	—	—
2.—Indian	434	471	64	—	—	—	370	85

SUPPLEMENT TO THE CALCUTTA GAZETTE, JUNE 15, 1898.

1247

STAPLES.	1897.		1898.		INCREASE.		DECREASE.	
	Weight.	Freight.	Weight.	Freight.	Weight.	Freight.	Weight.	Freight.
	Mds.	Rs.	Mds.	Rs.	Mds.	Rs.	Mds.	Rs.
Spices—								
1.—Khol-nuts ...	18,612	15,177	18,006	12,108	...	...	...	...
2.—Pepper ...	2,500	2,840	3,883	8,320	...	...	...	...
3.—Ginger ...	1,517	863	1,882	635	...	...	...	...
4.—Cloves ...	32,200	28,709	38,350	27,091	...	...	...	...
5.—Cardamoms ...	734	1,140	1,000	721	...	...	...	...
6.—Others ...	1,852	872	1,718	611	...	...	...	...
Spices and gums ...	4,43,227	30,356	4,35,739	66,218	...	5,683	14,007	...
Sugar—								
1.—Refined ...	10,750	5,588	12,640	6,384	...	...	...	...
2.—Unrefined ...	3,72,200	53,985	4,17,580	81,030	...	...	...	...
Tea—								
1.—Foreign ...	...	...	...	...	...	...	...	...
2.—Indian ...	2,169	1,223	1,422	1,040	...	...	...	...
Timber ...	2,46,790	45,077	1,78,310	27,150	...	...	...	...
Tobacco ...	1,38,741	62,478	67,314	30,324	...	...	...	...
Wool, raw ...	3,040	1,835	3,940	1,022	...	...	...	...
Wool, manufactured—								
1.—Woolen goods, European ...	362	493	251	240	...	...	...	...
2.—Shawls ...	2,897	3,860	3,235	3,303	...	...	...	...
All other articles of merchandise—								
1.—Firewood ...	13,876	1,042	20,790	1,267	...	...	...	...
2.—Indigo seed ...	68,474	20,480	9,370	2,581	...	...	...	...
3.—Rice seed ...	17,154	3,400	32,035	6,423	...	...	...	...
4.—Oil cake ...	17,279	14,821	62,314	13,540	...	...	...	...
5.—Paints & colours ...	10,453	3,154	15,001	4,634	...	...	...	...
6.—Seeds other than oilseeds ...	67,331	31,157	62,443	20,025	...	...	...	...
7.—Wooden articles ...	16,893	6,490	13,417	6,046	...	...	...	...
8.—Others ...	7,73,020	2,63,340	9,02,890	2,90,983	...	...	...	...
Total ...	1,37,48,847	34,26,254	1,67,83,572	34,48,061	...	...	...	...
Military stores ...	15,750	21,023	24,254	20,803	...	...	...	...
Coal for railway ...	6,47,318	98,974	11,28,406	83,873	...	...	...	...
Railway materials ...	11,85,808	40,802	7,00,061	50,352	...	...	...	...
Livestock ...	...	11,038	...	10,032	...	...	...	...
Total ...	1,75,36,921	85,45,061	1,70,41,862	36,24,242	...	...	...	...

C. W. CLARKE, Assistant Auditor.

TRAFFIC AUDIT OFFICE, GOODS DIVISION, JAMALPUR, the 7th June 1898.

EASTERN BENGAL STATE RAILWAY.

Abstract of principal Commodities carried over the Eastern Bengal State Railway during the month of March 1898, as compared with the same month of the previous year.

STAPLES.	1898.		1897.		Total.		Increase.	Decrease.
	Up.	Down.	Up.	Down.	1898.	1897.		
	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.		
Coal and Coke carried for the Public and Foreign Railways.	12,034	19,649	8,876	7,781	24,003	16,800	7,936	
Cotton, raw	10	688	3	697	665	610	55	
Cotton, manufactured—								
Twist and yarn, European	234		392		234	389		86
Do., Indian	222	178	134	186	420	363		57
Piece-goods, European	2,063	4	2,035	71	2,067	2,106		39
Do., Indian	25	11	41	23	86	64		22
Drugs and Chemicals—								
Intoxicating, other than opium	14	14	16	23	25	41		13
Non-intoxicating—								
Cinchona bark								
Others	84		308	1	84	300		236
Dyes and Tans—								
Indigo								
Myrabolans	21		21	3	21	30		9
Cutch	6	400	10	180	600	130		276
Turmeric								
Antimony	25	2	45		51	46		14
Others								
Grain and pulse—								
Wheat	26		21	16	26	37		11
Rice in the hulk	2,927	5,880	3,182	3,045	8,807	6,830		2,077
Rice not in the hulk	7,109	3,148	4,944	265	9,118	7,300		1,818
Lower and bapa								
Gram and pulse	2,021	6,043	1,117	10,630	2,004	11,768		2,766
Others	703	234	88		829	85		844
Hides and skins—								
Hides of cattle—								
Dressed or tanned								
Raw								
Skins of sheep, &c.—	60	1,010	18	240	1,079	759		220
Dressed or tanned								
Raw								
Horns	3	5		4	8	4		4
Jute—								
Raw	110	23,158	30	20,822	33,274	20,018		13,256
Gunny-bags and cloth	934	614	602	7,041	1,648	2,228		680
Lac—								
Stick		122		35	129	23		61
Shell								
Leather, manufactured	31	2	20	2	34	31		3
Liquors—								
Beer	43		29	3	43	31		12
Spirits	7		2		7	7		
Wines	24		74		90	74		16
Metals—								
Copper, unwrought	13		2		15	7		6
do., wrought	7		3		8	3		5
Copper, wrought	164	112	154	68	376	241		135
Brass, do.	2,318	108	3,281	110	2,540	2,391		149
Iron	338	38	324	10	372	343		29
Others								
Oils—								
Kerosene	8,744	168	6,461	113	8,600	8,681		328
Caster	23		41		23	41		18
Coconut	60		91	1	54	128		74
Others	200	19	224	3	222	232		10
Oilseeds—								
Linseed		1,763		800	1,787	604		1,097
Rape and mustard	155	9,476	364	7,893	8,041	8,172		1,654
Til in husk		14		209	14	203		189
Peanut								
Earthnuts								
Caster	20	18		57	47	57		10
Others								
Opium	143	143	143	143	225	307		82
Paper and pasteboard								
Provisions—								
Onion	73	3	32	2	78	24		54
Dried fruits and nuts		8	3		8	3		5
Others	481	618	1,001	243	1,499	1,740		241
Railway plant and rolling-stock carried for the Public and Foreign Railways—								
Locomotives, engines, and tenders and parts thereof								
Carriages and trucks and parts thereof								
Materials—								
Steel rails and fish-plates, sleepers, and keys of steel and cast-iron	303		322	22	305	244		61
Other sorts	123	5	672		184	672		488
Salt	5,671	70	6,405	135	5,941	6,637		696
Sulphate, &c.—								
Sulphate	7		7		7	7		
Other saline substances								
Stk. raw—								
Porcelain								
Indian		21		17	21	37		16

SUPPLEMENT TO THE CALCUTTA GAZETTE, JUNE 15, 1893.

1249

STAPLES.	1892.		1897.		Total.		Increase.	Decrease.
	Up.	Down.	Up.	Down.	1892.	1897.		
Silk-exports—								
<i>Foreign—</i>								
Japan—								
Muga	100	200	200	100	100	200	100	100
Endi	100	100	100	100	100	100	100	100
Spices—								
<i>Pepper—</i>								
Black	281	948	450	665	1,329	1,525	204	196
White	04	47	4	4	51	51	18	18
Other	189	189	189	189	189	189	189	189
<i>Cardamom—</i>								
Black	27	218	14	14	500	112	87	808
Other	100	27	29	29	27	29	29	29
<i>Other—</i>								
Siam and Siam	8,823	613	119	143	3,771	248	470	3
Waxes—								
<i>Red and or crystallized, including sugar-</i>								
<i>manly.</i>	843	4	150	26	366	156	310	1
<i>Unrefined, viz., molasses and jaggery or</i>								
<i>gum, and other saccharine produce.</i>	2,543	1,703	1,702	1,041	4,107	3,643	465	1
Resins—								
<i>Foreign—</i>								
<i>India—</i>								
<i>Other</i>	300	300	300	300	300	300	300	300
Tobacco—								
<i>Manufactured—</i>								
<i>Other</i>	31	1,710	123	2,318	1,770	2,431	661	661
Wool, raw								
<i>Other</i>	244	244	244	244	244	244	244	244
Wool, manufactured—								
<i>Other, Indian</i>	2	13	13	13	13	13	13	13
Staple								
<i>Other articles of merchandise</i>	9,911	5,717	5,869	3,413	15,028	11,684	3,344	11
Total	65,603	60,131	57,433	65,313	155,940	122,768	33,172	6,642

CALCUTTA, the 7th June 1893.

A. HYDE WOLLASTON,
for Examiner of Accounts.

BENGAL CENTRAL RAILWAY COMPANY, LIMITED.

Abstract of principal Commodities carried over the Bengal Central Railway during the month of March 1898, as compared with the same month of the previous year.

STAPLES.	1896.		1897.		TOTAL.		Increase.	Decrease.
	Up.	Down.	Up.	Down.	1896.	1897.		
	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.
Coal and Coke carried for the Public and Foreign Railways.	2,259	308	1,643	1,127	3,861	1,643	1,519	1,127
Cotton, raw		4			4		4	
Cotton, manufactured—			207		207			118
Twist and yarn, European	84				84			
Ditto, Indian	1	1						
Wool, European	190		248		190	248		186
Ditto, Indian	2		1	1	2			
Drugs and Chemicals—			1		1			1
Intoxicating, other than Opium								
Non-intoxicating—								
Cinchona bark	1		2		1	2		1
Others								
Dyes and Tans—								
Indigo								
Myrabolans								
Onion	7	46	1	4	43	5	46	
Turmeric								
Aniline Dyes	1				1		1	
Others								
Grain and Pulse—								
Wheat	1				1		1	
Rice in the husk	183	123	5	9	284	14	370	
Do. not in the husk	88	316	20	218	283	238	145	
Jawar and Bajra	46	430	16	86	62	70	8	
Gram and pulses								
Others								
Hides and Skins—								
Hides of cattle—								
Dressed or tanned								
Raw								
Skins of Sheep, &c.—								
Dressed or tanned								
Raw								
Horns								
Jobs—								
Raw		878		117	878	117	461	
Gunny-bags and cloth	20	2	25	80	25	86		7
Leather—								
Stick			1		1			1
Shell								
Leather, manufactured	2				2			
Liquors—								
Beer								
Spirits								
Wines								
Metals—								
Copper, unwrought								
Copper, wrought								
Iron	13	13	13	1	26	14	7	
Others	22	20	12	24	34	36	19	
Oil—								
Kerosine	128	11	324	3	452	33	419	
Castor	13		17	1	30	18		
Cocconut	56		147		203	147		
Others								
Oilseeds—								
Linnseed		441	1	36	442	37	404	
Rape and mustard		57	33	141	174	174		
Til or jundi								
Poppy								
Earth-nuts								
Castor								
Others								
Opium								
Paper and Pasteboard								
Provisions—								
Ghee								
Dried fruits and nuts								
Others	531	300	573	318	751	781		
Railway plant and rolling-stock carried for the Public and Foreign Railways—								
Locomotives, engines, and tenders, and parts thereof.								
Carriages and trucks, and parts thereof.								
Materials—								
Steel rails and fish-plates, sleepers, and keys of steel and cast-iron.								
Others								
Salt	301	5	754	7	306	762		
Salt-petre, &c.—								
Salt-petre	1				1			1
Other saline substances								
Silk—								
Foreign								
Indian								
Silk piece-goods—								
Foreign								
Indian								
Muga								
Eori								

SUPPLEMENT TO THE CALCUTTA GAZETTE, JUNE 15, 1898. 1251

STAPLES.	1896.		1897.		TOTAL.		Increase.	Decrease.
	Up.	Down.	Up.	Down.	1896.	1897.		
	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.
Spices—								
Betel-nut...
Pepper
Ginger
Chilies
Cardamoms
Others
Lime and limestone
Sugar—								
Refined or crystallised, including sugar-candy.
Unrefined, viz., molasses and jaggery or gur, and other saccharine produce.
Syrup
Indian
Timber
Tobacco
Unmanufactured
Manufactured—								
China
Other sorts
Wool, raw
Wool, manufactured—								
Pleasgoods, European
Ditto, Indian
Bamboo
All other articles of merchandise
Total

CALCUTTA, the 7th June 1898.

T. SIDDLE,
Auditor.

Weekly Return of Traffic Receipts on Indian Railways.

EAST INDIAN RAILWAY.

Approximate Return of Traffic for week ended 26th May 1898 on 1,705.09 miles open.

	COACHING TRAFFIC.		MERCHANDISE AND MINERAL TRAFFIC.		Other earnings (estimated).	Total earnings.	TRAFFIC TRAIN-MILES RUN.		
	Number of passengers.	Coaching receipts.	Weight carried.	Receipts.			Coaching.	Merchandise.	Total.
	(a)	Rs. A. P.	Mds. S.	Rs. A. P.	Rs. A. P.	Rs. A. P.			
Total traffic for the week	340,000	2,35,355 4 0	40,00,254 30	2,30,000 10 0	21,040 0 0	13,00,973 0 0	90,000	170,240	2,60,240
Or per mile of railway	199 10 8	138 10 8	23 4 0	134 8 0	12 3 6	740 8 3			
For previous 20½ weeks of half-year.	8,937,340	78,64,004 5 0	8,07,75,472 0	1,75,77,398 3 0	4,31,714 0 0	2,63,63,170 5 0	1,487,200	3,106,104	4,593,304
Total for 21½ weeks	7,217,135	76,84,300 11 0	9,43,53,120 30	1,80,27,930 13 0	4,72,700 0 0	2,66,10,140 8 0	1,487,200	3,106,104	4,593,304
COMPARISON.									
Total for corresponding week of previous year	510,110	2,87,315 12 5	48,43,304 0	8,75,123 1 0	22,710 1 4	11,28,148 14 7	88,584	155,213	2,43,797
Per mile of railway corresponding week of previous year	299 12 2	168 12 2	28 4 0	512 13 0	13 5 6	664 15 5			
Total for corresponding 21½ weeks of previous year	8,781,003	73,32,503 2 0	8,80,20,236 20	1,85,40,146 8 8	4,70,007 7 11	2,67,57,627 8 2	1,498,863	3,284,234	4,783,097

(a) The increase is in outward traffic.

(b) Miles 4,78½ added to coaching and 3,370½ deducted from merchandise an account of difference between the approximate and audited figures for week ended 2nd April to 7th May 1898.

TARKESSUR BRANCH RAILWAY.

Approximate Return of Traffic for week ended 26th May 1898 on 23.33 miles open.

	COACHING TRAFFIC.		MERCHANDISE AND MINERAL TRAFFIC.		Other earnings (estimated).	Total earnings.	TRAFFIC TRAIN-MILES RUN.		
	Number of passengers.	Coaching receipts.	Weight carried.	Receipts.			Coaching.	Merchandise.	Total.
		Rs. A. P.	Mds. S.	Rs. A. P.	Rs. A. P.	Rs. A. P.			
Total traffic for the week	30,074	4,320 0 0	12,551 10	544 7 0	10 0 0	5,394 0 0	1,107	81	1,188
Or per mile of railway	1287 4 1	185 4 1	538 10 0	23 7 12	0 7 2	232 5 1			
For previous 20½ weeks of half-year.	540,390	1,42,510 0 0	2,93,915 0	13,719 4 0	102 0 0	1,58,420 4 0	22,602	3,320	25,922
Total for 21½ weeks	570,464	1,46,830 0 0	3,06,466 10	14,233 11 0	202 0 0	1,60,610 4 0	23,709	3,401	27,110
COMPARISON.									
Total for corresponding week of previous year	20,720	4,976 14 2	17,003 20	743 1 0	0 11 0	5,718 10 2	1,066	108	1,174
Per mile of railway corresponding week of previous year	892 14 1	213 14 1	730 10 0	32 8 3	0 4 10	245 11 2			
Total for corresponding 21½ weeks of previous year	438,843	1,34,183 1 3	3,00,290 0	15,061 14 0	152 7 8	1,40,303 0 0	23,648	1,977	25,625

DELHI-UMBALLA-KALKA RAILWAY.

Approximate Return of Traffic for week ended 26th May 1898 on 162.84 miles open.

	COACHING TRAFFIC.		MERCHANDISE AND MINERAL TRAFFIC.		Other earnings (estimated).	Total earnings.	TRAFFIC TRAIN-MILES RUN.		
	Number of passengers.	Coaching receipts.	Weight carried.	Receipts.			Coaching.	Merchandise.	Total.
		Rs. A. P.	Mds. S.	Rs. A. P.	Rs. A. P.	Rs. A. P.			
Total traffic for the week	16,788	14,010 15 0	1,10,404 30	15,400 4 0	91 0 0	20,501 1 0	8,308	4,210	12,518
Or per mile of railway	103 5 8	86 5 8	680 10 0	95 8 6	0 5 0	126 7 3			
For previous 20½ weeks of half-year.	294,035	24,29,891 6 6	20,14,840 30	2,90,028 9 0	1,764 0 0	7,27,283 15 0	154,727	93,990	2,48,717
Total for 21½ weeks	310,823	4,42,903 0 0	21,25,335 30	3,12,127 13 0	1,855 0 0	7,54,858 3 0	163,035	100,987	2,64,022
COMPARISON.									
Total for corresponding week of previous year	17,441	14,105 13 1	1,14,206 30	10,527 11 0	63 7 0	23,738 16 7	6,534	4,304	10,838
Per mile of railway corresponding week of previous year	107 13 1	86 5 8	700 10 0	65 8 8	0 4 4	146 0 0			
Total for corresponding 21½ weeks of previous year	357,974	3,24,905 5 7	18,80,574 10	2,83,908 13 11	1,835 5 2	6,00,193 12 3	145,461	91,871	2,37,332

EASTERN BENGAL STATE RAILWAY.

(INCLUDING N. B., DACCA, K.-D., AND ASSAM-BIHAR SECTIONS.)

Approximate Return of Traffic and Mileage for the week ended 28th May 1898 on 818 miles open.

	COACHING TRAFFIC.		MERCHANDISE AND MINERAL TRAFFIC.		Other earnings including ferry.	Total earnings.	TRAFFIC TRAIN-MILES RUN.		
	Number of passengers.	Coachman receipts.	Weight carried.	Receipts.			Coaching.	Merchandise.	Total.
For the week	298,100	Rs. 1,04,280	Mds. 6,41,770	Rs. 98,800	Rs. 38,300	Rs. 2,40,380	34,300	31,420	65,720
of railway	235	195 0 0	784 0	121 0 0	51 0 0	1978 0 0	...	...	...
of 12 weeks of half-year	4,180,748	21,67,285 0 0	1,77,93,223 0	22,87,671 0 0	8,08,012 0 0	64,31,111 0 0	873,057	733,153	1,606,210
of 22 weeks	4,301,848	22,70,968 0 0	1,84,34,933 0	30,60,271 0 0	8,44,172 0 0	68,71,431 0 0	707,337	764,813	1,472,050
COMPARISON.									
corresponding period of year	391,177	87,407 0 0	11,98,115 0	1,83,683 0 0	47,876 0 0	3,84,966 0 0	33,726	24,931	58,657
of railway corresponding to previous year	385	120 0 0	1,672 0	171 0 0	44 0 0	365 0 0	...	...	...
corresponding date of year	4,341,103	23,25,885 0 0	1,85,08,104 0	33,19,720 0 0	8,58,403 0 0	69,78,927 0 0	710,585	723,441	1,434,026

* Audited up to 2nd April 1898.
† Excluding steam-boat earnings.

EASTERN BENGAL STATE RAILWAY.

(INCLUDING N. B., DACCA, K.-D., AND ASSAM-BIHAR SECTIONS.)

Approximate Return of Traffic and Mileage for the week ended 4th June 1898 on 818 miles open.

	COACHING TRAFFIC.		MERCHANDISE AND MINERAL TRAFFIC.		Other earnings including ferry.	Total earnings.	TRAFFIC TRAIN-MILES RUN.		
	Number of passengers.	Coachman receipts.	Weight carried.	Receipts.			Coaching.	Merchandise.	Total.
For the week	184,110	Rs. 64,710	Mds. 539,093	Rs. 90,510	Rs. 5,430	Rs. 1,46,650	33,380	31,540	64,920
of railway	237	116 0 0	883 0	117 0 0	1 0 0	1234 0 0	...	...	...
of 12 weeks of half-year	4,300,941	22,69,363 0 0	1,67,03,540 0	20,73,020 0 0	8,46,430 0 0	65,68,348 0 0	711,259	750,469	1,461,728
of 22 weeks	4,393,261	23,61,073 0 0	1,69,51,905 0	31,69,590 0 0	8,51,260 0 0	66,94,403 0 0	743,959	790,631	1,534,590
COMPARISON.									
corresponding period of year	304,786	89,053 0 0	7,69,983 0	1,18,700 0 0	7,100 0 0	3,21,843 0 0	33,563	28,000	61,563
of railway corresponding to previous year	352	123 0 0	934 0	148 0 0	1 0 0	325 0 0	...	...	...
corresponding date of year	4,445,068	23,54,428 0 0	1,50,08,033 0	33,35,420 0 0	8,37,821 0 0	69,97,459 0 0	743,520	797,320	1,540,840

* Audited up to 16th April 1898.
† Excluding steam earnings.

DACCA STATE RAILWAY.

Approximate Return of Traffic and Mileage for the week ended 28th May 1898 on 56 miles open.

	COACHING TRAFFIC.		MERCHANDISE AND MINERAL TRAFFIC.		Other earnings.	Total earnings.	TRAFFIC TRAIN-MILES RUN.		
	Number of passengers.	Coachman receipts.	Weight carried.	Receipts.			Coaching.	Merchandise.	Total.
For the week	18,705	Rs. 7,150	Mds. 30,410	Rs. 1,870	Rs. 80	Rs. 8,100	2,467	1,800	4,267
of railway	329	63 0 0	337 0	38 0 0	2 0 0	108 0 0	...	...	...
of 12 weeks of half-year	807,327	1,58,020 0 0	767,121 0	75,414 0 0	4,097 0 0	2,37,535 0 0	55,504	31,067	86,571
of 22 weeks	828,037	1,62,170 0 0	7,87,531 0	77,226 0 0	4,177 0 0	2,43,633 0 0	58,011	33,373	91,384
COMPARISON.									
corresponding week of year	12,270	6,336 0 0	41,065 0	2,571 0 0	425 0 0	1,906 0 0	1,594	1,303	2,897
of railway corresponding to previous year	143	74 0 0	486 0	30 0 0	5	108 0 0	...	...	...
corresponding date of year	441,293	1,34,959 0 0	6,96,306 0	67,821 0 0	4,345 0 0	1,97,126 0 0	54,480	28,853	83,333

* Audited up to 2nd April 1898.

DACCRA STATE RAILWAY.

Approximate Return of Traffic and Mileage for the week ended 4th June 1898 on 85 miles open.

	COACHING TRAFFIC.		MERCHANDISE AND MINERAL TRAFFIC.		Other earnings.	Total earnings.	TRAFFIC TRAIN-MILES.	
	Number of passengers.	Coaching receipts.	Weight carried.	Receipts.			Coaching.	Merchandise.
		Rs. A. P.	Mds. S.	Rs. A. P.	Rs. A. P.	Rs. A. P.		
Total traffic for the week ...	80,310	8,564 0 8	16,850 0	1,720 0 0	80 0 0	8,560 0 8	2,447	1,513
Or per mile of railway ...	944	76 0 8	197 0	90 0 0	1 0 8	97 0 8	...	...
For previous 51 weeks of half-year ...	324,719	1,61,958 0 0	791,707 0	77,964 0 8	4,165 0 0	2,43,263 0 0	54,478	36,667
Total for 52 weeks ...	540,583	1,68,412 0 0	803,717 0	78,966 0 8	4,945 0 8	2,51,613 0 0	67,156	40,501
COMPARISON.								
Total for corresponding week of previous year ...	31,763	6,351 0 0	18,389 0	1,801 0 0	46 0 8	7,798 0 8	2,565	1,371
Per mile of railway corresponding week of previous year ...	223	72 0 0	180 0	17 0 0	1 0 0	91 0 8	...	...
Total to corresponding date of previous year ...	433,076	1,41,803 0 0	713,537 0	69,323 0 8	4,561 0 0	2,04,933 0 0	60,900	37,630

* Audited up to 16th April 1898.

BENGAL CENTRAL RAILWAY COMPANY, LIMITED.

Approximate Return of Traffic and Mileage for the week ended 28th May 1898 on 125 miles open.

	COACHING TRAFFIC.		MERCHANDISE AND MINERAL TRAFFIC.		Other earnings.	Total earnings.	TRAFFIC TRAIN-MILES.	
	Number of passengers.	Coaching receipts.	Weight carried.	Receipts.			Coaching.	Merchandise.
		Rs. A. P.	Mds. S.	Rs. A. P.	Rs. A. P.	Rs. A. P.		
Total traffic for the week ...	30,767	12,323 0 8	43,470 0	3,409 0 8	19,163 0 0	25,062 0 8	8,263	1,004
Or per mile of railway ...	246	98 0 8	348 0	28 0 0	51 0 0	208 0 8	...	...
For previous 51 weeks of half-year ...	6,49,208	2,80,105 0 0	12,03,828 0	85,217 0 8	58,405 0 0	4,18,737 0 0	1,61,595	42,335
Total for 52 weeks ...	6,80,235	2,92,428 0 0	12,47,298 0	88,728 0 0	65,563 0 0	4,44,719 0 0	1,69,856	44,349
COMPARISON.								
Total for corresponding week of previous year ...	31,470	11,285 0 0	44,515 0	4,000 0 0	185 0 8	17,397 0 8	5,113	2,361
Per mile of railway corresponding week of previous year ...	252	98 0 0	354 0	40 0 0	1 0 0	180 0 8	...	...
Total to corresponding date of previous year ...	7,09,470	2,89,804 0 0	14,47,015 0	89,791 0 8	5,903 0 8	2,68,562 0 0	90,173	57,150

* Audited up to 2nd April 1898.

BENGAL CENTRAL RAILWAY COMPANY, LIMITED.

Approximate Return of Traffic and Mileage for the week ended 4th June 1898 on 125 miles open.

	COACHING TRAFFIC.		MERCHANDISE AND MINERAL TRAFFIC.		Other earnings.	Total earnings.	TRAFFIC TRAIN-MILES.	
	Number of passengers.	Coaching receipts.	Weight carried.	Receipts.			Coaching.	Merchandise.
		Rs. A. P.	Mds. S.	Rs. A. P.	Rs. A. P.	Rs. A. P.		
Total traffic for the week ...	29,761	12,890 0 0	54,028 0	3,644 0 0	395 0 0	16,433 0 0	5,213	2,610
Or per mile of railway ...	238	100 0 0	432 0	29 0 0	3 0 0	131 0 0	...	...
For previous 51 weeks of half-year ...	6,60,393	2,91,280 0 0	12,48,863 0	84,023 0 0	62,637 0 0	4,43,939 0 0	1,66,403	44,571
Total for 52 weeks ...	713,754	2,94,770 0 0	13,00,891 0	87,668 0 0	63,039 0 0	4,60,372 0 0	1,71,676	46,580
COMPARISON.								
Total for corresponding week of previous year ...	24,578	12,271 0 0	46,878 0	3,183 0 0	35 0 8	17,729 0 0	4,846	2,394
Per mile of railway corresponding week of previous year ...	277	101 0 0	375 0	41 0 0	...	143 0 0	...	...
Total to corresponding date of previous year ...	744,051	2,83,430 0 0	13,15,403 0	84,204 0 0	5,938 0 0	2,66,391 0 0	90,110	50,707

* Audited up to 16th April 1898.

ASSAM-BENGAL RAILWAY.

Approximate Return of Traffic for the week ended 28th May 1898 on 286 miles open.

	COACHING TRAFFIC.		MERCHANDISE AND MINERAL TRAFFIC.		Other earnings (estimated).	Total earnings.	TRAFFIC TRAIN-MILES RUN.		
	Number of passengers.	Coaching receipts.	Weight carried.	Receipts.			Coaching.	Merchandise.	Total.
		Rs. A. P.	Mds. c.	Rs. A. P.	Rs. A. P.	Rs. A. P.			
Traffic for the week	29,375	12,023 0 0	2,55,189 0	10,390 0 0	900 0 0	23,230 0 0	2,903	3,396	6,299
per mile of railway	75.25	42.04	892.17	36.32	2.32	61.31	10.50	15.73	26.23
Previous 12 weeks of half-year	341,651	5,26,876 0 0	47,23,332 0	1,72,277 0 0	13,045 0 0	5,11,930 0 0	62,445	91,740	1,54,185
Total for 12 weeks	564,066	8,38,298 0 0	49,78,570 0	1,82,073 0 0	18,919 0 0	4,58,185 0 0	65,458	97,105	162,563
COMPARISON.									
Corresponding week of previous year	20,225	10,800 0 0	2,26,018 0	11,519 0 0	975 0 0	23,106 0 0	3,221	7,732	10,953
Per mile of railway corresponding week of previous year	58.13	30.40	657.92	38.00	2.73	65.21	8.78	21.46	30.24
Corresponding date of previous year	457,853	9,48,741 0 0	57,27,338 0	1,88,016 0 0	10,657 0 0	4,46,414 0 0	75,405	1,54,079	229,484

(a) Includes audited figures for week ending 28th April 1898.

FINANCIAL YEAR.

Approximate Statement of Gross Receipts of the Assam-Bengal Railway.

RECEIPTS FOR WEEK ENDING 28th MAY 1898.			RECEIPTS FOR WEEK ENDING 28th MAY 1897.			TOTAL RECEIPTS FROM 1st APRIL 1898 TO 28th MAY 1898.			TOTAL RECEIPTS FROM 1st APRIL 1897 TO 28th MAY 1897.			Total increase in 1898.	Total decrease in 1898.
Receipts.	Per mile worked.	Mean mileage worked.	Receipts.	Per mile worked.	Mean mileage worked.	Total receipts.	Per mile worked.	Mean mileage worked.	Total receipts.	Per mile worked.	Mean mileage worked.		
Rs.	Rs.		Rs.	Rs.		Rs.	Rs.		Rs.	Rs.		Rs.	
23,255	91.21	360	28,104	65.81	280	2,05,662	...	360	1,88,868	...	360	24,196	...

ASSAM-BENGAL RAILWAY.

Approximate Return of Traffic for the Week ended 4th June 1898 on 296 miles open.

	COACHING TRAFFIC.		MERCHANDISE AND MINERAL TRAFFIC.		Other earnings (estimated).	Total earnings.	TRAFFIC TRAIN-MILES RUN.		
	Number of passengers.	Coaching receipts.	Weight carried.	Receipts.			Coaching.	Merchandise.	Total.
		Rs. A. P.	Mds. c.	Rs. A. P.	Rs. A. P.	Rs. A. P.			
Traffic for the week	31,473	12,647 0 0	2,57,510 0	10,100 0 0	257 0 0	23,004 0 0	3,005	4,692	7,697
per mile of railway	70.08	44.22	899.38	37.91	0.90	60.43	10.51	16.50	27.01
Previous 12 weeks of half-year	344,234	5,39,093 0 0	49,29,119 0	1,82,901 0 0	14,410 0 0	5,35,207 0 0	65,458	97,172	162,630
Total for 12 weeks	585,708	9,51,233 0 0	59,57,029 0	1,93,801 0 0	14,667 0 0	5,68,061 0 0	69,663	101,541	171,204
COMPARISON.									
Corresponding week of previous year	18,424	9,400 0 0	1,74,795 0	10,080 0 0	230 0 0	20,128 0 0	3,149	7,330	11,089
Per mile of railway corresponding week of previous year	58.03	28.17	485.54	28.92	0.60	54.43	9.03	22.05	31.08
Corresponding date of previous year	458,281	9,50,515 0 0	57,23,153 0	1,93,100 0 0	10,804 0 0	4,68,542 0 0	62,054	102,018	164,072

* Includes audited figures for week ending 30th April 1898.

FINANCIAL YEAR.

Approximate Statement of Gross Receipts of the Assam-Bengal Railway.

RECEIPTS FOR WEEK ENDING 4th JUNE 1898.			RECEIPTS FOR WEEK ENDING 4th JUNE 1897.			TOTAL RECEIPTS FROM 1st APRIL 1898 TO 4th JUNE 1898.			TOTAL RECEIPTS FROM 1st APRIL 1897 TO 4th JUNE 1897.			Total increase in 1898.	Total decrease in 1898.
Receipts.	Per mile worked.	Mean mileage worked.	Receipts.	Per mile worked.	Mean mileage worked.	Total receipts.	Per mile worked.	Mean mileage worked.	Total receipts.	Per mile worked.	Mean mileage worked.		
Rs.	Rs.		Rs.	Rs.		Rs.	Rs.		Rs.	Rs.		Rs.	
23,004	80.43	360	30,128	65.83	286	2,30,308	...	360	1,88,868	...	360	27,816	...

BENGAL AND NORTH-WESTERN RAILWAY.

(INCLUDES THERUT STATE RAILWAY.)

Approximate Return of Traffic for the week ending 28th May 1898 on 854 miles open.

	COACHING TRAFFIC.		MERCHANDISE AND MINERAL TRAFFIC.		Other earnings (estimated), including steam-boat.	Totalearnings.	TRAFFIC TRAIN-MILES RUN.		
	Number of passengers.	Receipts.	Weight carried.	Receipts.			Coaching.	Merchandise.	Total.
Total traffic for the week on 854 miles open	1,165,180	Rs. (a) 25,276	Mds. 6,13,030	Rs. (b) 55,190	Rs. (c) 14,980	Rs. 1,80,440	20,280	(d) 25,734	45,014
Or per mile of railway	170.91	28.60	717.84	105.61	25.40	196.41	...	...	...
For previous 52 weeks of half-year (e)	3,447,375	10,35,472	1,07,38,824	15,11,624	3,11,843	23,48,704	302,776	493,657	796,433
Total for 52 weeks	3,593,435	10,34,742	1,14,06,554	16,01,874	3,21,523	20,18,144	314,086	533,571	847,657
COMPARISON.									
Total for corresponding week of previous year on 815 miles open	120,004	53,384	8,23,113	61,795	33,591	1,48,971	17,779	(f) 25,043	42,822
For mile of railway corresponding week of previous year	146.25	65.75	1,003.71	75.83	41.23	182.79	...	...	...
Total to corresponding date of previous year	3,464,039	10,00,053	1,17,45,460	13,45,900	4,14,009	27,09,190	329,157	493,321	822,478

(a) Increase due to auspicious season for celebrating Hindu marriages.

(b) The week's traffic is slightly above normal. The comparison with the corresponding period is affected by an adjustment which was made in the corresponding figures for week ending 30th May 1897; and to more ballast trains having run which increased the quantity in the corresponding period of 1897.

(c) There is a decrease of about Rs. 2,000 under Ferry earnings. "Sundries" in the corresponding period include Rs. 6,734 on account of Line railway.

(d) Includes 1,089 miles of ballast trains run on open line.

(e) Audited figures up to week ending 2nd April 1898.

(f) 1,354 miles of ballast trains run on open line.

DARJEELING-HIMALAYAN RAILWAY COMPANY, LIMITED.

	Rs.	A.	P.
Approximate earnings for the week ending 4th June 1898	13,519	0	0
Corresponding period of 1897	15,867	0	0
Decrease	2,348	0	0
Receipts per mile for the week ending 4th June 1898	265	1	3
Ditto for the corresponding period of 1897	311	1	11
Decrease	46	0	8
Receipts from 1st January to 4th June 1898	2,91,629	0	0
Ditto for the corresponding period of 1897	3,07,856	0	0
Decrease	16,227	0	0



SUPPLEMENT TO The Calcutta Gazette.

WEDNESDAY, JUNE 22, 1898.

OFFICIAL PAPERS.

[Non-Subscribers to the GAZETTE may receive the SUPPLEMENT separately on payment of Six Rupees per annum if delivered in Calcutta, or Twelve Rupees if sent by Post.]

CONTENTS.

	Paps.		Paps.
Resolution on the Annual Report on Lunatic Asylums in Bengal for the year 1897	1247	Results of the Barometrical and Thermometrical Observations taken at the Meteorological Office, Calcutta, from 15th to 18th June 1898	1273
Construction of plague hospitals for the poorer classes in the town of Calcutta	1261	Circular and Eastern Canals for the week ending Saturday, the 19th June 1898	1275
Weather and Crop Report for the week ending 20th June 1898	1269	Statement showing heights over mean sea-level and low water in the Rivers Ganges, Bhagirathi, Jalangi and Brahmaputra for the month of April and May 1898	1274
Price-current (retail) of Food-stuffs and salt in the head-quarters station houses of the districts of Bengal during the fortnight ending the 15th June 1898	1266	Weekly return of Traffic Receipts on Indian Railways	1275
Results of the Meteorological Observations taken at the Airport Observatory from 15th to 18th June 1898	1272		

RESOLUTION ON THE ANNUAL REPORT ON LUNATIC ASYLUMS IN BENGAL FOR THE YEAR 1897.

MUNICIPAL DEPARTMENT—MEDICAL.

Calcutta, the 18th June 1898.

RESOLUTION—No. 371M, 2d.

READ—

The report on the Lunatic Asylums in Bengal for the year 1897.

Read also—

The report for the year 1896 and the Resolution recorded by Government upon it.

The report which was submitted by Surgeon-Colonel Newman was received by Government on 18th April, which is most satisfactory.

2. The number of patients in the five native asylums during the past two years and the main facts regarding them are shown in the following statement:—

			1896.	1897.
Remained on 1st January	...	...	921	918
Admitted and re-admitted	...	...	181	201
	Total	...	1,102	1,119
Discharged cured	...	...	61	64
" improved	...	...	27	28
" not improved	...	...	2	9
" otherwise	...	...	4	11
Died	...	...	90	90
	Total	...	184	196
Remaining on 31st December	...	...	918	923
Daily average strength	...	...	914	927

3. The total number of admissions was 183 against 156 in the previous year. An increase occurred in all the asylums, except Patna, where the number fell from 38 to 33, and was most marked at Dullunda, where an unusually large number of criminal lunatics was received. The number of re-admissions fell from 25 to 18, of which 7 occurred in the Dullunda asylum, comprising two cases of recurrent lunacy, two of lunatics sent back from jail, two re-admitted as non-criminal lunatics after being discharged from the criminal list, and one who had been made over to his friends as improved, but was found by them unmanageable. Of the 201 lunatics admitted and re-admitted to the five asylums during the year, 114 were criminals and 87 non-criminals against 104 and 77 respectively in the previous year. The criminal lunatics remaining in confinement on the 31st December 1897 numbered 485 against 477 at the end of 1896 and the non-criminal lunatics 442 against 441. Of the total number of criminal lunatics in confinement, 182 had been tried and acquitted on the ground of insanity, 269 were detained as incapable of making their defence, and 34 had become insane while in jail. The corresponding figures for 1896 were 191, 260 and 26. The statistics of the last eleven years show that the daily average strength of criminal lunatics has risen since 1887 from 390.88 to 480.62.

4. The number of discharges rose from 94 to 106. The increase of 10 at Dullunda is accounted for by the transfer of six lunatics to other provinces, and by the larger number who were made over to friends. The increase of 5 at Dacca is said to have been due to an unusually high proportion of recoveries. At Patna there was a decrease of 6 owing to a smaller number of improved cases having been made over to friends. Criminal lunatics are required under the rules to remain in the asylum for a probationary period after recovery, and at Patna several applications for the release of relatives had to be refused for this reason.

5. The accommodation available was sufficient in all the asylums, except that at Dullunda both the male and female wards were for a time slightly overcrowded, but on this being reported 34 males and 4 females were at once transferred to other asylums. The five asylums can accommodate 1,137 patients, allowing 50 square feet for each, but the number confined in any one night did not exceed 992.

6. Of the 201 admissions, 126 are classified under mania, 45 under melancholia, 7 under idiocy, and the remainder under various other types. Sixty-four are attributed to physical causes, 15 to moral causes, and in 122 cases the causes were unknown. Of the 64 cases attributed to physical causes, 25 are ascribed to ganja-smoking, 3 to spirit-drinking, 20 to heredity, 2 to fever, 6 to epilepsy, 1 to bhang, and 7 to other causes. There were 5 more ganja cases than in the preceding year, 9 being reported from Dullunda, 7 from Patna, 4 from Cuttaok, 3 from Berhampore, and 2 from Dacca. A careful diagnosis was made in every instance. In most of the Dullunda cases, however, it is said that the patients were also addicted to opium or alcohol, so that ganja was not the sole cause of their insanity.

7. The number of admissions to hospital fell from 898 to 867, but there was again a considerable increase in the average daily number of sick, which rose from 84.64 to 128.57. The rise in the daily number of sick at Dullunda is ascribed by the Superintendent to the fact that a comparatively larger proportion of the lunatics admitted there were of an advanced age, and that the great majority of them were admitted in exceptionally bad health, due probably to the effects of the famine. The maintenance at Dullunda and the formation at Dacca of an "infirm gang," the members of which received special care and treatment without being sent to hospital, seems to account for the small number of admissions to hospital at those two asylums. The present Inspector-General of Civil Hospitals will be asked to consider whether this system, which his predecessor considered open to objection, should be maintained. It is satisfactory to notice that there was no cholera in any of the asylums, although several cases occurred in the neighbouring jails. The number of deaths amounted to 90, the same high figure as in the previous year. The death-rate, 9.70, was lower than that shown for the year 1896 by Bombay,

but higher than that of Madras, the Punjab, North-Western Provinces, and Burma for the same year.

The Lieutenant-Governor is glad to see that a variety of much appreciated amusements was provided in all the asylums.

8. The number of injuries and accidents was 14 against 16 in 1896 and were mostly of an unimportant character. At Dacca, however, a lunatic committed suicide by hanging himself from the gratings of the cell. A judicial enquiry was held and one of the warders found to have been guilty of negligence: he was, however, only reduced to a lower grade, as the evidence did not warrant a criminal prosecution. At Patna a lunatic was found with several ribs broken: a jemadar was reduced and a warder fined, but a special enquiry by the Magistrate failed to elicit what had happened. It is supposed he had been kicked by another lunatic. No escape took place from any of the asylums during the year.

9. The income and expenditure of the asylums for the past two years are shown below:—

INCOME.

	1896.			1897.		
	Rs.	A.	P.	Rs.	A.	P.
1. Received from treasury ...	83,349	11	0	90,341	8	8
2. Ditto from paying patients ...	2,150	12	10	2,472	12	6
Total ...	85,500	7	10	92,814	5	2
3. Received from manufacturing department, less cost of raw materials ...	4,066	0	7	4,587	1	3
4. Received from the Public Works Department, Medical Store Depot and Stationery Office ...	4,389	5	6	12,432	12	4
GRAND TOTAL ...	93,955	13	11	1,09,834	2	9

EXPENDITURE.

	1896.			1897.		
	Rs.	A.	P.	Rs.	A.	P.
Establishment proper ...	17,839	6	4	20,016	13	6
Superintendence ...	17,362	11	4	16,709	8	7
Diet ...	41,207	0	5	46,429	0	8
Clothing and bedding ...	2,743	7	9	2,368	11	6
Bazar medicines ...	203	6	6	308	12	0
Contingencies proper ...	6,266	13	2	7,073	1	10
Repairs and maintenance ...	462	0	11	1,783	15	4
Rates and taxes ...	3,981	10	0	2,711	7	■
Miscellaneous ...	.....			.....
Printed forms and stationery ...	116	0	11	98	3	3
English medicines ...	871	4	10	1,272	15	3
Public Works ...	3,401	15	9	11,061	9	10
Total ...	93,955	13	11	1,09,834	2	9

The increase in the gross expenditure amounted to Rs. 15,878, and occurred chiefly under the heads of Public Works, Diet and Establishment Proper. The increase under the first named head was chiefly due to repairs which were necessitated by the earthquake. High prices in consequence of the famine and the grant of grain compensation allowance mainly account for the larger sums spent under the other two heads.

10. The gross cost of each lunatic at the different asylums for the past two years and the cost per head of average strength are given in the following table:—

			1896.	1897.
			Rs. A. P.	Rs. A. P.
Dullunda	...	...	118 5 11	129 14 10
Dacca	...	...	107 12 4	119 3 8
Patna	...	...	93 1 5	104 8 4
Cuttack	...	...	190 6 0	160 3 2
Berhampore	...	...	84 2 5	113 8 11
Average cost in all asylums			102 12 0	118 0 0

Details of cost.

			1896.	1897.
			Rs. A. P.	Rs. A. P.
Establishment	...	...	37 15 3	39 9 8
Diet	...	...	45 1 0	50 1 1
Clothing and bedding	...	...	3 0 0	2 8 10
Medicine	...	...	1 2 10	1 11 3
Contingencies and miscellaneous	...	...	7 5 9	9 8 10
Public Works Department charges	...	...	3 11 6	11 14 10
Rates and taxes	...	...	4 5 8	2 14 10
Forms and stationery	...	...	0 2 0	0 1 8
			102 12 0	118 7 0

11. In the dairy farm at Dullunda there was a loss of Rs. 1,133-8-3, about which the Superintendent has been asked to submit a special report. The dairy at Dacca was improved, while that at Berhampore which was opened in 1896 did not yield very satisfactory results.

12. There were 17 persons admitted and 2 re-admitted to the European Asylum at Bhawanipur, a number in both instances identical with that of the preceding year, while there were 36 patients remaining from the previous year. Recoveries, as in the preceding year, numbered 6; 10 persons were transferred to the care of their friends and 4 died, thus leaving 35 patients under treatment at the close of the year. The daily average strength was 21.65 males and 15.73 females, and the largest number confined in any one night was 24 males and 17 females. There was thus no overcrowding, as the asylum can accommodate 23 males and 19 females. There were only 8 admissions to hospital, and the general health of the inmates was good. The total expenditure rose from Rs. 21,269 to Rs. 21,772, but towards this Government contributed only Rs. 4,218 against Rs. 11,635 in the previous year, and the average cost of each lunatic fell from Rs. 369 to Rs. 114. The reason for this was the larger sum realized from paying patients, Rs. 17,543 against Rs. 9,424 in the preceding year, an improvement mainly due to the exertions of the Deputy Superintendent, Mr. Lawton.

13. The thanks of the Lieutenant-Governor are due to Surgeon-Colonel Newman for his clear and concise report, and to the various Superintendents for their efficient management of the asylums under them during the past year.

By order of the Lieutenant-Governor of Bengal,

H. H. RISLEY,

Secretary to the Government of Bengal.

CONSTRUCTION OF PLAGUE HOSPITALS FOR THE POORER
CLASSES IN THE TOWN OF CALCUTTA.

No. 3779Med., dated Darjeeling, the 19th June 1898.

From—H. H. RILEY, Esq., C.I.E., Secy. to the Govt. of Bengal, Municipal Dept.,
To—The Commissioner of Police, Calcutta.

I am directed to acknowledge the receipt of your letter No. 5465, dated the 7th June 1898, submitting a letter from Babu Benode Behary Mullick, of Ram Bagan in Calcutta, in which he offers to pay Rs. 1,000 towards the cost of construction of plague hospitals for the poorer classes in the town of Calcutta.

2. In reply, I am directed to say that the Lieutenant-Governor has much pleasure in accepting the offer on behalf of the public. I am to request that an expression of His Honour's thanks may be conveyed to the donor for this generous gift. The money should be placed at the disposal of the Chairman of the Corporation of Calcutta. A copy of this letter will be published in the *Calcutta Gazette*.

WEATHER AND CROP REPORT.

For the week ending the 20th June 1898.

Burdwan.—Rainfall at Sadar 5·74, Kalna 3·00, Katwa 3·62, Raniganj 8·15. Heavy rain. Cultivation of *aus* paddy and sowing of *aman* paddy continue. *Aman* lands being ploughed. Cattle-disease reported from a few villages. Fodder and water ample. Common rice selling as follows:—

				Srs.	
Sadar	10 to 16	} per rupee.
Kalna	...	...	...	12 to 13½
Katwa	...	...	...	12½ to 14
Raniganj	...	...	...	13½

Birbhum.—Rainfall at Sadar 5·93, Rampur Hât 4·57. Weather cloudy and rainy. Incessant heavy rain for three days. Prospects promising. Prices stationary. Fodder sufficient.

Bankura.—Rainfall at Sadar 22·77, Vishnupur 10·85. Heavy rain, which has rather injured the standing crops. Fodder and water sufficient. No cattle-disease reported. Common rice sells at 14 seers a rupee at Sadar and Vishnupur.

Midnapore.—Subdivisional reports not received. Rainfall at Sadar 12·29. Prospects of sugarcane and indigo good. Sowing of *aus* paddy has commenced, but most of what sown will have been drowned. Disastrous floods in Cossye yesterday (19th). Great damage. Common rice 13 seers per rupee.

Hooghly.—Rainfall at Sadar ·87, Serampur 1·75. Jute and *aus* plants doing well. Common rice sells from 10½ to 12½ seers per rupee.

Howrah.—Rainfall at Sadar 1·76, Ulubaria 2·06. Weather threatening. Sky overcast. Sowing of *aman* going on. Jute and *aus* progressing favourably. Fodder and water sufficient. Common rice sells at 10 to 12 seers per rupee.

24-Parganas.—Rainfall at Sadar 2·42, Barasat ·83, Basirhat 1·77, Diamond Harbour 1·36. Weather hot; cloudy and drizzling. Young plants of *aus* and jute doing well; weeding going on. Lands being prepared for *aman*. Some cases of cow-pox reported from Sonarpur police-station. Fodder and water sufficient. Common rice sells as follows:—

				Srs.	
Sadar	10 to 12	} per rupee.
Barasat	...	...	...	11½
Basirhat	...	...	...	13
Diamond Harbour	...	...	...	11½

Nadia.—Rainfall at Sadar 2·79, Kushtia 1·15, Meherpur 1·54, Ohuadanga 1·35, Ransghat 1·38. Weeding progressing. *Aus* seedlings, indigo and sugarcane doing well. Common rice selling at 10 to 13 seers per rupee. Fodder and water sufficient. No cattle-disease.

Murshidabad.—Rainfall at Sadar 2·27, Jangipur 1·10, Kandi 3·99. Weather seasonable. *Bhadai* and jute plants progressing well. The rains are doing much good. Lands are being ploughed for sowing of *haimanti* paddy. No cattle-disease reported. Fodder and water sufficient. Common rice sells as follows:—

				Srs.	
Sadar	...	...	...	12½	} per rupee.
Jangipur	...	...	...	14	
Kandi	...	...	...	18	

Jessore.—Weather almost cyclonic; windy and cloudy. Rainfall at Jessore 2·46, Jhenida 1·40, Magura 3·00, Narail 4·16, Bangaon ·94. Ploughing and sowing of *aus*, *aman* and jute still going on. Weeding and harrowing commenced. Young paddy plants thriving well. No cattle-disease reported. Fodder and water sufficient. Price of common rice stationary.

Khulna.—Rainfall at Sadar 5.42, Bagerhat 5.01, Satkhira 3.24. Weather rainy. Cultivation of *aus* over; that of *aman* going on. Fodder and water available. Common rice sells as follows:—

	Srs.				
Sadar	11 to 13
Bagerhat	12
Satkhira	13
					} per rupee.

Dinajpur.—Average rainfall 1.52. Weather stormy with heavy rain. Condition of the standing crops good. No cattle-disease. Fodder and drinking-water ample. Rice selling at 13 seers per rupee.

Jalpaiguri.—Weather hot and cloudy. Rainfall at Sadar 12.52, Alipur Duars 15.36. Lands were being prepared for *haimanti* paddy. Standing crops doing well. Fodder and water sufficient. Common rice sells from 9 to 15 seers a rupee.

Darjeeling.—Rainfall at Darjeeling 4.03, Kurseong 7.59, Siliguri 3.03. Weather seasonable. *Hills*—*Bhutia* and potatoes being harvested; *chhota* and *bara marua* progressing. *Terai*—*Bhadol*, jute, and sugarcane progressing. Prospects good. Coarse rice sells as follows:—

Hills—9 to 11 seers per rupee.

Terai—13 to 16 " " "

Bhutia sells from 18 to 28 seers per rupee.

Rangpur.—Rainfall at Sadar 2.21, Gaibanda 1.14, Nilphamari 3.14, Kurigram 5.35. Weeding of jute and paddy in full swing. Prospects good. Common rice selling at 10 to 18 seers a rupee. Fodder and water sufficient.

Bogra.—Average rainfall 2.98. Ploughing of lands for *aman* continues. Sowing of *aman* commenced. Rain doing much good to *aus*. Fodder and water sufficient. Common rice from 10½ to 12½ seers a rupee.

Pabna.—Rainfall at Sadar 4.71, Sirajganj 3.47. Weather cloudy and rainy. Crops doing well. Price of rice 9 to 12 seers per rupee.

Dacca.—Rainfall at Sadar 1.99, Manikganj 1.38, Munshiganj 2.88, Narainganj 4.03. Weather rainy and cloudy. Prospects of crops good. Fodder available. Cattle-disease prevalent in the Sadar sub-division. Common rice 9 to 11 seers per rupee.

Mymensingh.—Rainfall at Sadar 3.51, Netrokona 1.39, Kishorganj 1.59, Tangail 3.30. Monsoon has set in. Standing crops doing very well. Cattle are in good condition. Water and fodder plentiful. Common rice sells at 9 to 11 seers per rupee.

Faridpur.—Rainfall at Sadar 1.24, Goalundo 2.93, Madaripur 1.52. Weather rainy and damp. Prospects of crops good. Fodder and water sufficient. Common rice sells at 11 seers per rupee.

Backergunge.—Rainfall at Sadar 5.68. Weather showery. Prospects of crops fair. Common rice sells from 8 to 12 seers per rupee.

Tippura.—Weather seasonable. Rainfall at Sadar 6.15, Chandpur 5.28, Brahmanbaria 3.97. Prospects of crops favourable. Paddy and jute plants thriving. Harvesting of *ut* completed. Fodder and water sufficient. Rice sells from 8 to 11 seers per rupee.

Noakhali.—Rainfall at Sadar 16.96, Feni 7.80. Prospects of crops good. Cattle-disease continues at Senbag and Ramganj. Fodder and water sufficient. Average price of rice 10 seers per rupee.

Chittagong.—Rainfall 18.46. Weather seasonable. Prospects favourable. Rice still selling at 10 seers per rupee.

Patna.—Rainfall at Sadar .06, Barh 1.96, Bihar .32, Dinapur 1.63, Hilsa 1.45. Bikram .84. Condition of standing crops improved by the rain. *Bhadol* sowings and *marua* transplantation going on. Prices almost steady. Common rice selling at 16 seers a rupee in Patna. Fodder and water for cattle sufficient.

Gaya.—Rainfall at Sadar 1.18. Rain has facilitated *bhadol* sowings. Price of common rice 14½ seers per rupee.

Shahabad.—Rainfall at Sadar 1.56, Buxar 1.20, Sasaram 1.57, Bhabua 1.14. *Bhadol* sowings commenced. Sugarcane doing well. Fodder and water sufficient. Price of common rice at Sadar 13 seers per rupee. Cattle-disease as before.

Saran.—Rainfall at Sadar 13, Siwan 2·76, Gopalganj 1·39. Weather seasonable. Indigo very good. Preparation for *bhadoi* sowings facilitated by recent rain. Fodder and water sufficient. Average prices are—common rice 12·8 seers and *makai* 20·2 seers, against 7·12 seers and 9·8 seers respectively last year.

Champan.—Rainfall at Motihari 4·54, Bettiah 2·49, Barharwa 1·86, Bagaha 1·65, Ramnagar 75. Weather hot and cloudy. Sowing of paddy, *makai*, and *kodo* much facilitated by rain. Harvesting of *chama* finished. Young crops of *bhadoi* already sown doing well. Fodder and water sufficient. Common rice sells at Sadar 12 seers, against average 14½ seers per rupee.

Musaffarpur.—Rainfall at Sadar 17, Hajipur 68, Sitamerhi 5·18. Sowing of *bhadoi* crops in progress. Prospects good. Prices are—common rice 11 to 13 seers, wheat 14½ to 15 seers, barley 21½ to 22 seers, *makai* 19½ to 20 seers, gram 18 to 19 seers, and *rahar* 22½ to 23 seers per rupee.

Darbhanga.—Rainfall at Sadar 2·30, Samastipur 39, Madhubani 4·54. Weather hot and cloudy. Sowing of *bhadoi* in progress. The rain has been beneficial to the standing crops. Fodder and water sufficient. Common rice 11 seers per rupee at Sadar.

Monghyr.—Rainfall at Sadar 64, Begusarai 08. Weather, very hot and occasionally cloudy. Sowing of *bhadoi* crops continues. More rain urgently wanted for it. Indigo doing well. Common rice sells as follows:—

Monghyr	...	...	...	12 to 14 seers per rupee.
Begusarai	...	...	...	11 to 13 " "

Bhagalpur.—Weather seasonable. Rainfall at Sadar 2·22, Banka 23, Madhipura 08, Supaul 5·78. Transplantation of winter rice has commenced in some places. Standing crops doing well. Fodder and water sufficient. Cattle-disease reported from Protaganj in the Supaul subdivision. Prices of common rice are as follows:—

				Srs. ch.
Sadar	...	...	...	14½ seers per rupee.
Banka	...	...	...	15 " "
Madhipura	...	...	...	13 " "
Supaul	...	...	...	16½ " "

Purnea.—Rainfall at Sadar 2·76, Kishanganj 3·16, Araria 2·30. Weather hot and cloudy. Recent rain has done much good to standing crops. Weeding and harrowing operations going on briskly. Cattle-disease still prevails in Araria. Fodder and water sufficient. Common rice selling as follows:—

				Srs.
Sadar	...	...	...	15
Kishanganj	...	...	...	15
Araria	...	...	...	16

} per rupee.

Malda.—Rainfall at Sadar 71, Chanchal 1·05, Shibganj 2·90, Gajole 1·70. Weather cloudy and rainy since Thursday (16th). A heavy shower of rain fell yesterday (19th). Young plants of *bhadoi* paddy and jute doing well. Ploughing going on for winter rice. Common rice selling at 13 seers per rupee. Fodder sufficient.

Sonthal Parganas.—Average rainfall 2·67. Ploughing in full progress. No new case of cattle-pox reported. Fodder and water-supply improving. Price of rice 12 seers 14 chittack to 14 seers, and of maize 18 to 21 seers per rupee.

Angul.—Rainfall at Sadar 3·39. Sowing of paddy and *bhadoi* crops in progress. Price of rice 20 seers per rupee.

Hasaribagh.—Rainfall at Sadar 12·01, Giridi 3·53. Excellent weather for ploughing and sowing. Rice sells at 10 to 12 seers per rupee.

Lohardaga.—Rainfall 11·17. Sowing of paddy continues. Rice sells at Ranchi 11 seers per rupee, and in the interior from 11 to 16 seers per rupee. Cattle-disease dying out. Fodder and water sufficient. Grain in stock sufficient.

Palaman.—Rainfall at Daltonganj 3·37. Weather seasonable. Heavy rain everywhere. *Makai*, *marua*, *sawan* and *kodo* being sown everywhere. Sugarcane and *gundli* doing well. Rice selling from 12 to 16 seers per rupee.

Manbhum.—Rainfall at Sadar 19·25, Gobindpur 3·99. Weather seasonable. Prospects of crops on the ground good. Cattle-disease reported from thana Purulia. Fodder and water sufficient. Average price of common rice at Sadar 13 seers and at Gobindpur 12 seers per rupee. Supply sufficient.

Singhbhum.—Rainfall 6·48. Rice plentiful; from 12 to 14 seers per rupee.

General Summary.—Heavy rain fell during the week over the greater part of Bengal Proper and over Chota Nagpur; in the other parts of the Province rain was general, but more moderate. The rainfall in Bankura and Midnapur was exceptionally heavy, and in the latter district disastrous floods are reported to have occurred causing great damage. Reports from all other districts are very favourable. Cultivation is going on rapidly everywhere, and the young crops of early rice and jute are doing well. Sugarcane and indigo are also thriving. Prices have slightly fallen in a few districts, but in most places steady. The supply of fodder generally is sufficient, but cattle-disease still exists in certain districts.

By order of the Lieutenant-Governor of Bengal,
REVENUE DEPARTMENT,
The 21st June 1898.

M. FINUCANE,
Secretary to the Govt. of Bengal.

PRICES-CURRENT (retail) of Food-grains and Salt in the Head

Number.		DISTRICTS.	QUANTITIES PER RUPEE IN																	
			WHEAT.			BARLEY.			RICE, BEST SORT.			RICE, COMMON.			JOWAR OR CHOLEN. (Sorghum Vulgare.)					
			Present return.	Next preceding return.	Corresponding return of last year.	Present return.	Next preceding return.	Corresponding return of last year.	Present return.	Next preceding return.	Corresponding return of last year.	Present return.	Next preceding return.	Corresponding return of last year.	Present return.	Next preceding return.	Corresponding return of last year.			
BENGAL.																				
Burdwan Division.	1	Burdwan	10 6	10 6	9 2	...	...	...	10 3	10 8	7 8	12 6	12 6	8 8	...	...	...
	2	Birbhum	12 0	12 0	8 4	...	...	...	9 12	9 12	6 12	12 12	12 12	7 8	...	...	...
	3	Bankura	12 0	12 0	9 0	...	...	...	11 4	11 4	7 2	14 0	14 8	9 4	...	...	...
	4	Midnapore	10 0	9 8	8 0	...	...	...	11 0	10 2	7 8	12 12	12 8	9 8	...	...	...
	5	Hooghly	10 0	10 0	9 8	...	...	...	7 8	7 8	7 0	10 10	10 10	7 12	...	...	...
	6	Howrah	...	...	...	...	...	...	9 0	9 0	7 4	11 0	11 6	8 12	...	...	...
Farakka Division.	7	24-Parganas	...	...	...	...	...	...	8 0	8 0	5 12	10 0	11 0	6 12	...	...	...
	8	Calcutta	10 10	10 10	8 0	14 8	14 8	10 0	7 4	8 15	6 2	10 10	10 10	7 0	16 0	16 0	10 8			
	9	Nadia	11 18	11 18	8 14	14 9	14 9	10 0	6 11	5 11	0 2	11 9	11 7	8 1	...	...	...
	10	Murshidabad	12 0	12 0	9 0	20 0	20 0	9 8	10 0	10 0	7 8	12 0	12 0	8 0	...	...	...
	11	Jessore	10 0	...	...	9 0	...	8 0	10 0	...	7 0	12 0	...	8 0	...	...	...
	12	Khulna	...	...	...	...	...	...	10 14	10 14	7 0	12 10	12 10	7 8	...	...	...
Rangpur Division.	13	Rajshahi	12 12	12 12	8 4	20 0	20 0	11 8	6 0	6 0	5 4	11 10	12 0	7 5	...	...	...
	14	Dinajpur	12 0	10 12	8 0	...	...	...	9 9 3/4	9 9 3/4	6 14	12 10	12 0	7 8	...	...	...
	15	Jalpaiguri	10 0	10 0	8 0	...	...	...	5 0	5 0	6 0	12 0	12 0	7 8	...	...	...
	16	Darjeeling	7 0	7 0	6 0	8 0	8 0	8 0	5 0	5 0	5 0	11 0	11 0	7 8	...	...	...
	17	Rangpur	8 0	8 0	7 0	...	...	...	7 8	7 12	5 12	11 6	11 14	7 0	...	...	...
	18	Bogra	12 0	15 0	7 8	...	...	...	7 8	7 8	6 0	11 4	10 8	7 14	...	...	...
Dacca Division.	19	Pabna	12 12	12 12	9 8	22 8	22 8	14 4	9 0	9 0	6 0	12 0	11 10	7 13	...	...	...
	20	Dacca	11 8	10 8	8 4	18 4	18 0	...	9 4	9 0	7 8	10 0	10 0	8 8	...	...	...
	21	Mymensingh	8 0	8 0	7 0	...	...	...	7 8	7 8	6 0	10 0	10 0	7 0	...	...	...
	22	Faridpur	...	...	...	...	...	...	5 4	5 8	5 4	10 0	10 0	8 0	...	...	...
	23	Shakergunge	...	...	...	...	...	...	9 8	9 8	7 8	10 8	10 0	8 0	...	...	...

- A. In the subdivisions the retail prices of salt per rupee are:—Kalna 11 seers; Katwa 9 seers 2 chittaks; Raniganj 10½ seers.
 B. At Rampur 11½ the retail price of salt is 9½ seers per rupee.
 C. In the subdivisions the retail prices of salt per rupee are:—Contai 9 seers; Tamluk 10 seers; Ghatal 9 seers.
 D. In the subdivisions the retail prices of salt per rupee are:—Serampore 10½ seers (crushed); Jahanabad 8 seers (panga).
 E. At Ulubaria the retail price of salt is 10 seers 10½ chittaks per rupee.
 F. In the parts in the interior of the district the retail prices of salt per rupee are:—Chotla 10½ seers; Barasat 10 seers; Dacca 10 seers 10 chittaks; Magrahat 10 seers.
 G. In the subdivisions the retail prices of salt per rupee are:—Kushtia (Bahadurkhal) 10½ seers (panga); Chuadanga 9 seers (panga); Mohorpur 9 seers 2 chittaks (karkatch); Ranaghat 9 seers (crushed).
 H. In the subdivisions the retail prices of salt per rupee are:—Lalraigh 9 seers; Kandi 10 seers; Jangipur return not received.
 I. In the subdivisions the retail prices of salt per rupee are:—Jhenida 9 seers 1 chittak; Magura 9½ seers; Narail 9 seers 11 chittaks; Bengaon 9 seers 2 chittaks.
 J. In the subdivisions the retail prices of salt per rupee are:—Bagerhat 10 seers; Sakshira 11 seers.

TABLE NO. 10. YOLAH.

IN CENTS. MANUA OR RAGI.
(Electric Corrosion.)

Which, immediately after,
Corresponding re-
turn of last year.
Present return.
Next preceding re-
turn.
Corresponding re-
turn of last year.

Ch. S. Ch. S. Ch. S. Ch. S. Ch. S.

1	100	100	100	100	100
2	100	100	100	100	100
3	100	100	100	100	100
4	100	100	100	100	100
5	100	100	100	100	100
6	100	100	100	100	100
7	100	100	100	100	100
8	100	100	100	100	100
9	100	100	100	100	100
10	100	100	100	100	100

11	100	100	100	100	100
12	100	100	100	100	100
13	100	100	100	100	100
14	100	100	100	100	100
15	100	100	100	100	100
16	100	100	100	100	100
17	100	100	100	100	100
18	100	100	100	100	100
19	100	100	100	100	100
20	100	100	100	100	100

21	100	100	100	100	100
22	100	100	100	100	100
23	100	100	100	100	100
24	100	100	100	100	100
25	100	100	100	100	100
26	100	100	100	100	100
27	100	100	100	100	100
28	100	100	100	100	100
29	100	100	100	100	100
30	100	100	100	100	100

31	100	100	100	100	100
32	100	100	100	100	100
33	100	100	100	100	100
34	100	100	100	100	100
35	100	100	100	100	100
36	100	100	100	100	100
37	100	100	100	100	100
38	100	100	100	100	100
39	100	100	100	100	100
40	100	100	100	100	100

KAWONT OR KAKIN. ITALIAN MILLET. (<i>Setaria italica</i> .)			GRAIN, U. CANTON, 1880 (Clear weight)	
Present return.	Next preceding turn.	Corresponding turn of last year.	Present return.	Next preceding turn.

B.	Ch.	B.	Ch.	B.	Ch.	B.	Ch.	B.	Ch.
11	0	0	0	14	0	14	0	14	0
15	12	15	0	15	12	15	0	15	12
14	0	14	0	14	0	14	0	14	0
13	0	13	0	13	0	13	0	13	0
16	0	16	0	16	0	16	0	16	0
12	0	12	0	12	0	12	0	12	0

10	10	10	0	8	0	14	8	14	8
15	13	15	0	15	13	15	0	15	13
13	0	13	0	13	0	13	0	13	0
15	8	15	8	15	8	15	8	15	8
9	0	9	0	9	0	9	0	9	0

15	8	15	8	15	8	15	8	15	8
14	12	14	12	14	12	14	12	14	12
13	0	13	0	13	0	13	0	13	0
10	0	10	0	10	0	10	0	10	0
11	8	11	8	11	8	11	8	11	8
17	1	17	0	17	1	17	0	17	1
15	13	15	13	15	13	15	13	15	13

11	8	11	8	11	8	11	8	11	8
8	0	8	0	8	0	8	0	8	0
13	0	13	0	13	0	13	0	13	0
10	8	10	8	10	8	10	8	10	8

Warren Station Bazaars of the Districts of Bengal on the 15th June 1898.

WHOLESALE PRICES PER MAUND OF 40 SEERS.																	
SUGAR-CORN OR MAIZE. (See page.)				ARRHAR OR TRUTH, CAJIAN PEA. (Cajanus Indicus.)				SALT.			SALT.			DISTRICTS.		Number.	
Next return.	Corresponding return of last year.	Present return.	Next preceding return.	Corresponding return of last year.	Present return.	Next preceding return.	Corresponding return of last year.	Present return.	Next preceding return.	Corresponding return of last year.	Present return.	Next preceding return.	Corresponding return of last year.				
BENGAL.																	
D. S.	Ch. S.	Ch. B.	Ch. S.	Ch. B.	Ch. S.	Ch. B.	Un.	S.	Ch.	S.	Ch.	Ra. A. P.	Ra. A. P.	Ra. A. P.			
"	"	17 0	17 0	11 4	10 12	10 12	11	A	Crushed.					3 10 0	3 8 0	Burdwan,	1
"	"	18 16	19 0	12 0	9 12	9 12	10 8	B	Karkatch.					4 1 6 4	1 6 3 10 6	Birbham.	2
"	"	12 0	12 0	9 0	10 0	10 0	10 0	C	Panga.					4 0 0 4	0 0 4 0 0	Bankura.	3
"	"	No im- port.	16 0	No im- port.	10 8	9 11	10	D	Panga.					0 13 10 0	4 2 0 3 13 0	Midnapore.	4
"	"	8 0	8 0	7 0	10 0	10 0	9 6	E	Crushed.					3 12 0	3 12 0	Hoochly.	5
"	"	11 4	11 4	8 0	10 0	10 2	9 4	F	Panga.					3 10 0	3 9 0 4 0 0	Howrah.	6
"	"	11 0	11 4	7 0	10 8	10 8	9 0	G	Panga.					3 8 0	4 0 0	24-Parganas.	7
14 0	9 4	10 10	10 10	10 0	10 0	10 0	10 0	H	Panga.					3 7 0	3 7 0 8 10 0	Calcutta.	8
"	"	18 18	17 12	11 7	10 10	9 11	10 10	I	Panga.					0 4 2 0	3 12 0	Nadia.	9
"	"	20 0	20 0	12 0	10 0	9 8	11 0	J	Karkatch.					0 4 3 0	3 8 0	Murshidabad.	10
"	"	18 0	"	10 0	10 0	"	8 8	K	Panga.					"	4 0 0	Jessore.	11
"	"	8 0	8 0	8 0	9 0	8 0	8 0	L	Panga.					0 4 0 0	4 6 0	Khulusa.	12
"	"	21 0	21 0	11 4	9 0	9 0	9 0	M	Panga.					0 4 4 0	4 2 8	Rajahshi.	13
"	"	21 0	19 0	12 0	10 4	10 4	10 2	N	Panga.					0 3 14	0 3 14 3	Dinajpur.	14
"	"	19 0	10 0	8 8	9 8	10 0	10 0	O	Panga.					0 3 14 0	3 12 0 4 2 0	Jalpaiguri.	15
13 0	21 8	6 0	6 8	5 8	8 0	8 0	7 0	P	Panga.					"	"	Darjeeling.	16
16 0	10 0	7 4	7 4	8 0	9 0	9 0	7 0	Q	Panga.					0 4 0 0	4 0 0 5 0 0	Rangpur.	17
"	"	"	"	"	8 10	8 10	8 4	R	Panga.					4 2 4 2	3 4 4 0	Bogra.	18
"	"	20 0	20 0	13 8	8 6	8 0	9 12	S	Panga.					3 15 0	4 2 0 4 0 0	Pabna.	19
"	"	11 12	11 12	8 4	9 2	10 0	10 0	T	Panga.					4 2 0 3 12 0	4 0 0	Dacca.	20
"	"	5 8	5 8	8 0	8 0	8 0	8 0	U	Panga.					4 4 0 0	4 0 0 4 6 0	Mymensingh.	21
"	"	"	"	"	9 12	10 0	"	V	Panga.					4 4 0 4	5 0 4 10 6	Faridpur.	22
"	"	"	"	"	10 0	10 0	10 0	W	Panga.					3 12 0	3 12 0 4 0 0	Backergunge.	23

In the subdivisions the retail prices of salt (panga) per rupee are :—Nator 7½ seers ; Nuyyuan 8 seers.
At Ajpur the retail price of salt is 8 seers per rupee.
At Karsong and Biliguri the retail price of salt is 8 seers per rupee.
In the subdivisions the retail prices of salt per rupee, are :—Gaidanda 10 seers ; Niphaman 10 seers ; Kewigan
return not received,
At Kojaguri the retail price of salt is 11 seers per rupee.
In the wards in the interior of the district the retail prices of salt per rupee are :—Madanganj 10 seers 10 chitaks ;
Manikganj 9 seers ; Munsirhat 10 seers 10 chitaks ; Mirkadia 10 seers 10 chitaks.
In the subdivisions the retail prices of salt per rupee are :—Kishoriganj 9 seers 8 chitaks ; Jazalpur 8 seers
6 chitaks ; Kuzmari 8 seers ; Netrakona 8 seers.
In the subdivisions the retail prices of salt per rupee are :—Gaalando 10 seers (panga) ; Misardipur 10½ seers (crushed).
In the subdivisions the retail prices of salt per rupee are :—Pirajpur 8 seers ; Bhola 8 seers ; Patkhalai return not
received.

PRICES-CURRENT (retail) of Food-grains and Salt in the Head-quarters

		QUANTITIES PER RUPEE																	
		WHEAT.			BARLEY.			RICE, BEST SORT.			RICE, COMMON.			JOWAR OR CHHOLAH (Sorghum Polypoides)					
Number.	DISTRICTS.	Present return.	Next preceding return.	Corresponding return of last year.	Present return.	Next preceding return.	Corresponding return of last year.	Present return.	Next preceding return.	Corresponding return of last year.	Present return.	Next preceding return.	Corresponding return of last year.	Present return.	Next preceding return.	Corresponding return of last year.			
		S. Ch.	S. Ch.	S. Ch.	S. Ch.	S. Ch.	S. Ch.	S. Ch.	S. Ch.	S. Ch.	S. Ch.	S. Ch.	S. Ch.	S. Ch.	S. Ch.	S. Ch.	S. Ch.		
BENGAL—continued.																			
CHITTAGONG DIVISION.	24	Tippera	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	25	Noakhali	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	26	Chittagong	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
BIHAR.																			
PATNA DIVISION.	27	Patna	...	10 0	16 0	10 8	24 0	23 0	12 8	12 0	12 0	7 12	14 8	15 0	8 4	22 0	18 0		
	28	Gaya	...	14 0	14 0	9 0	24 0	23 0	11 4	8 0	8 4	8 4	14 0	14 0	8 0	...	18 0		
	29	Bahabad	...	...	{ 13 0 & 13 8 }	{ 9 8 & 10 0 }	...	19 0	11 0	...	{ 6 8 & 7 0 }	{ 8 7 & 12 }	...	12 0 & 13 8	8 0 & 8 8	...	...
	30	Saran	...	14 8	13 8	9 12	22 0	20 0	11 8	8 0	7 0	6 0	12 8	12 8	8 0	...	...
	31	Champaran	...	15 0	15 0	8 8	25 8	25 8	12 8	8 8	6 8	6 4	12 0	12 8	7 12	...	...
	32	Munassarpur	...	14 0	14 0	9 4	22 0	21 0	10 12	6 0	7 0	5 4	12 0	13 0	7 8	...	...
33	Darbhanga	...	12 0	13 4	8 4	20 0	18 0	10 0	8 8	7 0	6 4	12 0	12 0	7 0	...	...	
BAGALPUR DIVISION.	34	Monghyr	...	{ 14 24 to 16 18 }	14 54	9 74	24 24	24 24	9 114	6 44	5 124	5 4	12 184	13 14	7 14	...	...
	35	Bhagalpur	...	16 4	13 14	9 8	22 12	22 0	12 10	12 0	11 0	8 15	13 14	13 14	8 14	...	...
	36	Perma (Kasba)	...	16 0	15 8	9 0	...	...	...	12 0	12 0	7 0	15 0	16 8	8 0	...	...
	37	Malda (English Bazar)	...	14 0	14 0	9 0	...	...	...	8 0	8 0	6 12	12 0	13 0	7 0	...	...
	38	Southal Pargana.	...	10 0	10 0	8 0	16 0	16 0	...	8 0	9 0	7 0	13 0	14 8	7 12	...	...
	ORISSA.																		
CUTTACK DIVISION.	39	Cuttack	...	9 8	9 8	7 14	...	...	...	10 8	10 8	8 8	12 8	13 2	10 13	...	...
	40	Balasore	...	13 0	13 0	8 0	10 0	10 0	8 0	11 0	12 0	8 0	14 0	13 8	10 8	...	...
	41	Puri	...	...	7 10	6 9	...	...	...	...	6 9	7 1	...	13 2	11 0	...	...
CHOTA NAAGPUR.																			
CHOTA NAAGPUR DIVISION.	42	Hazaribagh	...	11 8	11 8	8 4	17 0	16 0	9 0	8 0	8 0	6 0	22 0	12 0	7 8	...	...
	43	Lohardaga	...	{ 6 0 to 11 0 }	{ 0 0 to 18 0 }	{ 5 8 to 7 0 }	14 0	14 0	8 0	{ 8 8 to 10 0 }	{ 8 8 to 9 0 }	{ 6 0 to 12 0 }	{ 11 0 to 11 12 }	{ 8 12 to 7 8 }	...	...	...
	44	Palamau	...	15 12	15 8	8 2	23 10	23 10	11 13	12 6	12 6	4 12	13 8	13 8	7 5	...	...
	45	Manbhum	...	11 0	11 4	8 8	13 0	16 0	12 0	9 8	10 0	{ 8 8 to 7 0 }	14 0	14 0	{ 7 8 to 8 0 }	...	16 0		
	46	Singbhum	...	8 0	8 0	8 0	...	...	...	12 0	12 0	7 0	13 0	13 0	8 0	...	...

* Present return not received.

- T. In the subdivisions the retail prices of salt per rupee are:—Chandpur 9 seers; Brahmanbaria 9 seers 6 chittaks.
 U. At Feni the retail price of salt is 7 seers per rupee.
 V. At Cox's Bazar the retail price of salt (panga) is 8½ seers per rupee.
 VI. In the subdivisions the retail prices of salt per rupee are:—Bihar 9½ seers, Barh 9½ seers.
 W. In the subdivisions the retail prices of salt per rupee are:—Bahabad 9 seers; Nawad 8½ seers.
 X. In the subdivisions the retail prices of salt per rupee are:—Siwan 11 seers; Gopalganj (Mirganj) 11 seers 10 chittaks.
 Y. At Bettiah the retail price of salt is 10 seers per rupee.
 Z. In the subdivisions the retail prices of salt per rupee are:—Hajipur 9½ seers and Sitamarhi 11 seers.
 a. In the subdivisions the retail prices of salt per rupee are:—Madhubani 10 seers 5 chittaks; Saran 10 seers.

KAWONE OR KAKUN
ITALIAN MILLET.
(*Sesaria italica*.)

CHAS.
CHAMPLAIN
OR
(Clear)

Present return.	Next preceding re- turn.	re- Corresponding turn of last year.	Present return.
-----------------	-----------------------------	--	-----------------

S. Ch. S. Ch. S. Ch. S. Ch.

...
...	...	...	10 0
...	...	...	10 0

10 0	9 0	11 8	22 0
12 0	...	9 8	15 0
...
10 0	10 0	10 0	19 0
...	...	...	17 0
...	...	...	18 0
...	...	...	15 0

...	...	...	21 0
...	...	...	19 0
...	...	...	16 0
...	...	...	16 0
...	...	...	14 0
...	...	...	14 0

...	...	...	13 0
...	...	...	11 0
...	...	...	12 0

...	...	...	16 0
...	...	...	15 0
...	...	...	13 0
...	...	...	13 0
...	...	...	15 0
...

Station Razars of the Districts of Bengal on the 15th June 1898—(concluded).

WHOLESALE PRICES PER MAUND OF 40 SEERS.																									
INDIAN CORN OR MAIZE (Zea mays.)						ARHAR OR TUR, CADJAN PEA. (Cajanus indica.)						SALT.					SALT.					DISTRICTS.			
Present return.		Next return.		Corresponding return of last year.		Present return.		Next return.		Corresponding return of last year.		Present return.		Next return.		Corresponding return of last year.									
Ch.	S.	Ch.	S.	Ch.	S.	Ch.	S.	Ch.	S.	Ch.	S.	Ch.	S.	Ch.	S.	Ch.	S.								
																	BENGAL—continued.								
																	Tippura.		24		CHITTAGONG DIVISION.				
																	Noakhali.		25						
																	Chittagong.		26						
																	BIHAR.								
																	Patna.		27		PATNA DIVISION.				
																	Dinapore.		28						
																	Shahabad.		29						
																	Saran.		30						
																	Ghazipur.		31						
																	Muzaffarpur.		32						
																	Darbhanga.		33						
																	Monghyr.		34		BHARATPUR DIVISION.				
																	Bhagalpur.		35						
																	Purnea (Kush).		36						
																	Maha (English Bazar).		37						
																	Sonthal Pargannas.		38						
																	ORISSA.								
																	Cuttack.		39		ORISSA DIVI- SION.				
																	Balasore.		40						
																	Puri.		41						
																	CHOTA NAGPUR.								
																	Hazaribagh.		42		CHOTA NAGPUR DIVISION.				
																	Lohardigha.		43						
																	Palamau.		44						
																	Manbhum.		45						
																	Singbhum.		46						

In the subdivisions the retail prices of salt per rupes are :—Bajmural 9 seers 7 chitties, Jarahi 9 seers.
 In the subdivisions the retail prices of salt per rupes are :—Barka 8 seers ; Madhipara 8 seers ; Bupaul 8 seers.
 At Bala-Naxarung and Araria subdivisions the retail price of salt is 9 seers per rupes.
 At Bala-Naxarung the retail price of salt (panga) is 9 seers per rupes.
 In the subdivisions the retail prices of salt per rupes are :—Gaida 9 seers (mixed) ; Jantara 9 seers (panga) ;
 Pakur 10 seers (karkatch) ; Rajmural 10 seers (karkatch).
 In the subdivisions the retail prices of salt (panga) per rupes are :—Jajpur 8 seers ; Kendrapara 9 seers.
 At Ibadrak the retail price of salt is 9 seers per rupes.
 At Gobindpur the retail price of salt is 10 seers per rupes.

PRICES-CURRENT (wholesale) of Food-grains, Firewood

Number.	MARK.	RICE (BEST SORT).			COMMON RICE (more abundant).			WHEAT (<i>Triticum sativum</i>).			BARLEY (<i>Hordeum vulgare</i>).	
		Present return.	Next preceding return.	Corresponding return of last year.	Present return.	Next preceding return.	Corresponding return of last year.	Present return.	Next preceding return.	Corresponding return of last year.	Present return.	Next preceding return.
1	2	3	4	5	6	7	8	9	10	11	12	13
		Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.
1	Calcutta	5 4 0	5 8 0	6 0 0	3 8 0	3 8 0	5 0 0	3 10 0	3 10 0	4 4 0	2 8 0	2 8 0
2	Burdwan	3 12 0	3 12 0	5 5 0	3 1 0	3 2 0	4 10 0	3 12 0	3 18 0	4 6 0	—	—
3	Midnapore	3 8 0	4 0 0	5 0 0	3 0 0	3 8 0	4 0 0	—	—	—	—	—
4	Patna	6 10 0	6 10 0	6 10 0	3 5 3	3 6 6	5 1 6	3 2 3	3 2 3	4 4 0	—	—
5	Rangpur	6 9 0	5 2 0	6 8 0	3 6 0	3 6 0	5 8 0	4 0 0	4 0 0	5 8 0	—	—
6	Dacca	4 4 0	4 5 0	5 5 0	3 12 0	3 12 0	4 10 0	3 3 0	3 8 0	4 12 0	1 12 0	2 0 0
7	Chittagong	4 12 0	5 0 0	5 4 0	3 5 0	4 0 0	4 9 0	—	—	—	—	—
8	Patna	3 4 0	3 4 0	5 0 0	2 8 0	2 9 6	4 7 0	2 7 0	2 7 0	3 12 0	1 9 6	1 10 6
9	Muzaffarpur	5 11 0	5 11 3	7 9 10	3 5 3	3 1 2	5 5 6	2 11 0	2 18 6	4 5 2	1 13 0	1 14 3
10	Bhagalpur	3 5 3	3 8 6	5 7 8	2 14 0	2 14 0	4 7 0	2 10 0	2 14 0	4 2 6	1 12 0	1 13 0
11	Cuttack	3 6 6	3 6 6	4 5 6	3 1 0	2 14 6	3 7 6	3 13 0	4 0 0	4 18 0	—	—
12	Ranchi	4 7 0 to 4 11 0	4 7 0 to 4 11 0	6 2 0 to 6 10 6	3 6 6 to 3 10 0	3 6 6 to 3 10 0	5 5 0 to 5 14 6	3 10 0 to 6 10 6	5 0 0 to 8 10 6	6 11 0 to 7 4 0	2 13 6	2 13 6

CALCUTTA,
The 21st June 1898.

JHAI OR CHOLEM (<i>Sorghum vulgare</i>).			BAJRA OR CUMBU (<i>Pennisetum typhoides</i>).			MARUA OR RAGI (<i>Eleusine coropana</i>).			GRAM, CHANA, CHOLA, KADALAY, OR BUNAGA (<i>Cicer arietinum</i>).		
Next preceding return.	Corresponding return of last year.		Present return.	Next preceding return.	Corresponding return of last year.	Present return.	Next preceding return.	Corresponding return of last year.	Present return.	Next preceding return.	Corresponding return of last year.
16	17		18	19	20	21	22	23	24	25	26
Rs. A. P.	Rs. A. P.		Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.
0	2 4 0	3 8 0	2 12 0	2 12 0	4 8 0	...	...	...	2 12 0	2 10 0	3 12 0
...	2 12 0	2 12 0	3 15 0
...
...	2 3 6	2 8 6	4 0 0
...	3 0 0	3 0 0	4 0 0
...	3 2 0	3 5 0	4 8 0
...	4 0 0	4 0 0	5 2 0
...	1 12 0	1 12 0	3 7 0
...
...	2 1 6	2 1 9	2 14 0
...	2 12 6	Biri or kalai. 2 12 6	3 2 6
...	3 1 0	3 1 0	4 11 0 to 5 0 0

PRICES PER MAUND

INDIAN-CORN OR MAIZE (Zea mays).			ARHAR DAL OR TUR — CARDIAN PEA (Cajanus indicus).			LINSKED.			MUSTARD AND RAPISEED.		
Present return.	Next preceding return.	Corresponding return of last year.	Present return.	Next preceding return.	Corresponding return of last year.	Present return.	Next preceding return.	Corresponding return of last year.	Present return.	Next preceding return.	Corresponding return of last year.
27	28	29	30	31	32	33	34	35	36	37	38
Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.
2 0 0	2 0 0	4 0 0	3 8 0	3 8 0	3 8 0	3 12 0	3 12 0	4 12 0	4 0 0	3 14 0	4 0 0
...	...	...	3 7 0	3 7 0	5 4 0	...	...	...	4 0 0	4 0 0	4 0 0
...	...	...	...	...	...	3 6 0	3 6 0	3 12 0	4 0 0	4 1 3	4 0 0
...	...	...	...	...	...	3 6 0	3 6 0	3 12 0	5 0 0	5 0 0	5 0 0
...	...	...	2 0 0	3 0 0	4 10 6	3 6 0	3 6 0	3 8 0	3 7 0	3 8 0	3 8 0
2 0 0	2 0 0	4 0 0	5 4 0	5 4 0	5 0 0	11 8 0	12 8 0	10 0 0	4 8 0	4 8 0	4 8 0
...	...	...	3 4 0	3 4 0	4 12 0	...	...	...	...	...	...
...	...	...	...	...	...	...	...	...	4 0 0	4 0 0	4 0 0
1 10 6	1 9 6	...	1 0 6	1 10 6	3 3 8	2 12 0	2 9 8	3 4 0	3 8 0	3 8 0	3 8 0
2 1 8	2 0 0	4 3 3	2 11 0	3 1 2	5 0 0	...	...	...	...	...	...
1 4 0	1 4 0	4 2 6	1 15 6	2 1 0	3 5 3	3 3 0	3 14 0	3 10 0	4 1 0	4 0 0	4 0 0
...	...	...	2 5 6	2 5 6	3 6 0	...	...	...	4 3 6	4 3 6	4 3 6
...	...	...	4 7 6	4 7 0	8 0 0	3 1 0	3 1 0	6 11 0	2 13 6	3 0 0	3 0 0
...	...	...	5 0 0	5 0 0	...	...	...	...	3 5 0	3 5 0	3 5 0

ARD SEEDS.

MATERIAL SEED.		SUGAR (RAW).			COTTON, CLEANED.			JUTE.		
Next preceding return.	Corresponding return of last year.	Present return.	Next preceding return.	Corresponding return of last year.	Present return.	Next preceding return.	Corresponding return of last year.	Present return.	Next preceding return.	Corresponding return of last year.
40	41	42	43	44	45	46	47	48	49	50
Ra. A. P.	Ra. A. P.	Ra. A. P.	Ra. A. P.	Ra. A. P.	Ra. A. P.	Ra. A. P.	Ra. A. P.	Ra. A. P.	Ra. A. P.	Ra. A. P.
4 0 0	4 8 0	4 10 0	4 14 0	5 0 0	16 8 0	16 8 0	17 8 0	4 8 0	4 4 0	5 4 0
—	—	5 2 0	5 4 0	4 10 0	16 0 0	16 0 0	18 0 0	—	—	—
—	—	5 0 0	5 0 0	{ 4 4 0 to 4 12 0 }	18 0 0	18 0 0	20 0 0	—	—	—
—	—	4 0 0	4 0 0	3 8 0	24 0 0	24 0 0	24 0 0	2 10 0	2 10 0	4 12 0
—	—	6 0 0	6 0 0	5 8 0	—	—	—	3 0 0	3 0 0	4 8 0
—	—	6 0 0	6 0 0	5 0 0	—	—	—	3 0 0	3 0 0	3 0 0
—	—	6 4 0	6 4 0	5 12 0	14 0 0	14 0 0	15 4 0	—	—	—
3 8 0	4 1 0	3 0 0	3 4 0	4 0 0	14 0 0	14 0 0	16 0 0	2 8 0	2 8 0	3 0 0
—	—	2 18 3	3 5 3	—	—	—	—	—	—	—
—	—	3 11 0	4 0 0	4 2 6	20 0 0	15 0 0	18 0 0	—	—	—
3 10 6	3 12 3	5 10 0	5 12 0	5 0 0	24 8 0	24 8 0	20 8 0	—	—	—
—	—	{ 4 11 0 to 5 0 0 }	{ 4 11 0 to 5 0 0 }	{ 5 11 0 to 6 2 0 }	{ 20 0 0 to 20 0 0 }	{ 20 0 0 to 20 0 0 }	{ 20 0 0 to 20 0 0 }	—	—	{ — to — }

GHI (CLARIFIED BUTTER).			TOBACCO LEAF.			HIDES (COW).			GRAIN.	
Present return.	Next preceding return.	Corresponding return of last year.	Present return.	Next preceding return.	Corresponding return of last year.	Present return.	Next preceding return.	Corresponding return of last year.	Present return.	Next preceding return.
51	52	53	54	55	56	57	58	59	60	61
Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	R. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.
38 0 0	33 0 0	30 0 0	6 0 0	5 0 0	7 0 0	245-0-0 per 10 pieces.	245-0-0 per 100 pieces.	250-0-0 per 100 pieces.	8 12 0	8 12 0
34 0 0	34 0 0	29 0 0	Mudhukhali.			Uncleaned hides, per piece—			per kahen.	
30 0 0	36 0 0	32 0 0	5 14 0	5 12 0	4 12 0	0 8 0	0 6 0	0 12 0		
40 0 0	40 0 0	27 0 0	6 4 0	6 8 0	6 8 0	to 1 14 0	to 1 14 0	to 2 6 0		
36 0 0	37 0 0	30 0 0	6 12 0	6 14 0	7 0 0	Cleaned hides, per piece—	0 10 0	0 10 0	1 0 0	
40 0 0	40 0 0	27 0 0	6 12 0	6 14 0	7 0 0	to 2 2 0	to 2 2 0	to 3 10 0		
36 0 0	37 0 0	30 0 0	6 0 0	6 0 0	5 8 0	...	...	...
40 0 0	35 0 0	33 0 0	7 0 0	7 8 0	7 8 0	25 0 0	25 0 0	27 0 0	3 0 0	3 0 0
40 0 0	40 0 0	37 0 0	10 0 0	10 0 0	0 0 0	20 0 0	20 0 0	18 0 0		
30 0 0	30 0 0	22 0 0	8 0 0	8 0 0	8 0 0	per maund.			0 6 0	0 6 0
32 0 0	32 0 0	24 0 9	10 0 0	10 0 0	11 7 0	...	...	...	per maund.	
34 0 0	31 0 0	26 8 0	4 0 0	4 0 0	5 0 0	...	...	...
35 12 0	35 12 0	30 8 0	4 8 0	5 0 0	5 0 0	25 0 0	25 0 0	22 0 0	20 0 0	20 0 0
33 10 11	36 0 0	24 0 9	5 0 0	8 0 0	8 0 0	per maund.			per kahen.	
40 0 0	40 0 0	32 0 0	13 0 0	13 0 0	13 0 0	1 4 0	1 4 0	2 0 0	0 8 8	0 8 8
						per piece.			per maund.	

undermentioned Marts of Bengal on the 15th June 1898.

MART.	PRICES PER MAUND OF 40 STANDARD BEERS.														
	IRON.					FIREWOOD.					SALT.				
	Next preceding return.	Corresponding return of last year.	Present return.	Next preceding return.	Corresponding return of last year.	Present return.	Next preceding return.	Corresponding return of last year.	Present return.	Next preceding return.	Corresponding return of last year.	Present return.	Next preceding return.	Corresponding return of last year.	MARTS.
	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78
	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	
1. Calcutta.	6 0 0	5 0 0	...	...	...	5 8 0	6 0 0	5 8 0	0 7 0	0 7 0	0 7 0	3 7 0	3 7 0	3 10 0	
2. Burdwan.	6 0 0	7 0 0	...	...	...	...	...	...	0 8 0	0 8 0	0 8 0	3 10 0	3 10 0	3 8 0	
3. Midnapore.	1 14 0	2 0 0	...	...	...	4 8 0	4 0 0	4 4 0	0 4 0	0 4 0	0 4 0	3 10 0	4 2 0	3 13 0	
4. Patna.	1 0 0	1 0 0	...	...	...	7 8 0	7 8 0	8 0 0	0 4 0	0 4 0	0 4 0	3 15 0	4 2 0	4 0 0	
5. Rangpur.	2	10	...	...	...	6 8 0	6 8 0	7 0 0	0 5 0	0 5 0	0 5 0	4 0 0	4 0 0	0 5 0 0	
6. Dacca.	...	...	...	...	...	5 0 0	5 0 0	5 8 0	0 5 0	0 5 0	0 4 0	4 2 0	3 12 0	3 4 0 0	
7. Chittagong.	...	...	...	...	...	5 0 0	5 0 0	5 8 0	...	...	...	3 12 0	3 12 0	3 4 0 0	
8. Patna.	0 5 0	0 8 0	...	...	...	8 0 0	8 0 0	8 0 0	0 5 0	0 5 0	0 5 0	3 10 0	3 10 0	0 3 8 0	
9. Munaffarpur.	...	...	...	...	...	8 0 0	8 0 0	8 0 0	0 4 0	0 4 0	0 4 0	4 0 0	0 4 0	0 3 10 0	
10. Bhagalpur.	...	...	...	...	...	5 4 0	5 12 0	5 4 0	0 5 0	0 5 0	0 5 0	3 14 0	4 2 0	0 4 0 0	
11. Onitack.	2 10 0	2 10 0	...	...	...	4 8 0	4 8 0	4 8 0	0 5 0	0 4 0	0 4 0	3 2 0	3 1 0	0 3 4 0	
12. Ranabli.	...	...	...	...	...	5 11 0	5 11 0	5 11 0	0 4 0	0 4 0	0 4 0	4 6 0	4 6 0	0 4 12 0	

M. FINUCANE,
Secretary to the Govt. of Bengal.

Results of the Meteorological Observations taken at the Alipore Observatory from
12th to 18th June 1898.

Month.	Date.	Maximum in sun.	Number of hours of bright sunshine.	Mean pressure barometer at 32° Fahr.	TEMPERATURE.				HYGROMETRY.				WIND.		Rain.	Weather.
					Mean.	Maximum.	Range.	Minimum.	Mean wet bulb.	Vapour tension.	Dew point.	Humidity.	Prevailing direction.	Miles recorded.		
1898.				Inches.	°	°			°	Inches.	°	%			Inches.	
June	12th	159.5	7.4	29.605	80.3	83.4	14.4	70.0	80.0	0.985	78.8	79	S by E and ESE	72	0.01	Partially cloudy, t, d.
"	13th	164.0	5.8	29.564	85.2	89.6	9.6	80.1	81.2	1.015	79.7	84	ESE	147	0.71	Partially cloudy, d, p, t.
"	14th	146.1	6.2	29.403	84.2	88.8	8.8	80.0	81.0	1.019	79.3	87	ESE and ESE	141	0.31	Partially cloudy, d, d, p, t.
"	15th	140.1	3.0	29.408	83.2	87.5	8.4	79.1	80.6	1.013	79.6	89	ESE	161	0.53	Cloudy, d, p.
"	16th	105.8	Nil	29.321	81.0	88.6	4.5	79.0	80.2	1.014	79.7	94	ENE and SW	175	0.44	Cloudy, d, d, p.
"	17th	130.7	"	29.379	81.4	83.7	6.2	77.3	79.2	0.968	78.2	90	SW	238	0.70	Cloudy, d, d, p.
"	18th	122.6	"	29.446	82.0	85.1	6.1	78.0	78.8	0.935	77.2	83	SW	315	0.03	Cloudy, d, d.

The mean pressure of the seven days	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	Inches.
The average pressure of the corresponding period for 24 years, Surveyor-General's Office	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	29.454
The total number of hours of bright sunshine	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	Hours.
The maximum possible number of hours of sunshine	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	22.0
The mean temperature of the seven days	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	83.5
The average temperature of the corresponding period for 24 years, Surveyor-General's Office	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	84.5
The extreme variation of temperature	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	16.1
The maximum temperature	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	93.4
The highest velocity of the wind in one hour	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	Miles.
The mean relative humidity	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	87
The average relative humidity of the corresponding period for 24 years, Surveyor-General's Office	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	83
The total fall of rain from 12th to 18th June 1898	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	Inches.
The average fall of the corresponding period for 24 years, Surveyor-General's Office	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2.22
The total fall from 1st January to 18th June 1898	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	3.1
The average fall of the corresponding period for 24 years, Surveyor-General's Office	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	9.62
	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	16.62

The mean pressure, temperature, &c., are deduced from the traces of the Barograph and Thermograph and from observations made at 6h, 10h., 16h., and 22h.

The maximum and minimum temperatures are obtained from self-registering thermometers. All thermometers are verified and the readings have been corrected to a standard constructed and verified at Kew Observatory. They are exposed under a thatched shed open at the sides, and are suspended four feet above the ground.

The barometer readings are corrected approximately to those of the standard, Newman's No. 8 formerly at the Surveyor-General's Office.

The hygrometric elements are obtained from Tables III, IV, and V of the official tables computed at the Meteorological Office, and based on Regnault's modifications of August's formula.

The directions and the movement of the wind are taken from the trace of a Beckley's anemograph.

The mouth of the rain-gauge is one foot above the ground.

o, overcast; g, gloomy; d, drizzling rain; p, passing temporary showers; t, thunder.

METEOROLOGICAL OFFICE, GOVT. OF INDIA,
Calcutta, the 20th June 1898.

J. H. GILLILAND,
For Meteorological Reporter to the Govt. of India

Results of the Barometrical and Thermometrical Observations taken at the Meteorological Office, Chowringhee, from 12th to 18th June 1898.

Month.	Date.	Pressure at 10 A.M. corrected and reduced to 32° Fahr.	TEMPERATURE.					HYGROMETRY.				Rainfall, last 24 hours.
			Daily mean.	Maximum.	Range.	Minimum.	Dry bulb at 10 A.M.	Wet bulb at 10 A.M.	Vapour tension at 10 A.M.	Dew point at 10 A.M.	Humidity at 10 A.M.	
1898.		Inches.	°	°		°	°	°	Inches.	°	%	Inches.
June	12th	29.837	83.3	96.8	17.5	79.8	89.8	82.5	1.017	79.7	73	
"	13th	29.593	86.4	92.0	11.2	80.8	89.6	83.0	1.041	80.5	75	0.21
"	14th	29.514	86.7	93.0	12.7	80.3	88.4	79.6	0.889	74.9	68	0.44
"	15th	29.442	85.4	90.2	10.4	79.8	87.4	81.5	0.995	79.1	70	0.36
"	16th	29.350	82.9	86.0	6.2	79.8	82.0	81.5	1.063	81.1	80	0.76
"	17th	29.382	81.9	88.0	8.2	77.9	82.4	78.5	0.922	76.7	83	0.17
"	18th	29.470	83.4	88.0	9.2	78.8	82.5	79.0	0.965	78.3	87	0.07

The mean 10 A.M. pressure of the seven days ... 29.481 Inches.

The mean temperature of the seven days ... 84.9 °

The extreme variation of temperature ... 19.0 °

The maximum temperature ... 96.8 °

The mean 10 A.M. relative humidity of the seven days ... 80 %

The total fall of rain from 12th to 18th June 1898 ... 2.00 Inches.

The daily mean temperatures are the crude means of maximum and minimum temperatures.

METEOROLOGICAL OFFICE, BENGAL,

The 20th June 1898.

G. W. KÜCHLER,

Offg. Meteorological Reporter to the Govt. of Bengal.

CIRCULAR AND EASTERN CANALS.

Approximate return of traffic for the week ending Saturday, the 18th June 1898, as compared with the corresponding week of the previous year.

NATURE OF CARGO.	WEEK ENDING SATURDAY, THE 18TH JUNE 1898.			WEEK ENDING SATURDAY, THE 19TH JUNE 1897.		
	Number of boats.	Weight of cargo.	Tollage.	Number of boats.	Weight of cargo.	Tollage.
	No.	Mds.	Rs.	No.	Mds.	Rs.
Rice and paddy	96	11,165	126	182	38,655	570
June	10	6,350	83	13	16,380	165
Firewood	95	38,650	505	74	48,528	646
Other articles	333	82,418	1,215	730	2,47,360	5,390
Total	474	1,34,578	1,928	999	2,44,910	4,780

IRRIGATION DEPARTMENT,--BENGAL.
Statement showing Heights over mean sea-level and low-water in the Rivers Ganges, Bhagirathi, Jalangi, and Brahmaputra, for the month of May 1898.

		Muzampur.		Benares.		Bara.		Dinapore.		Monghyr.		Sahibganj.		Ranpur Balia.		Goalundo.		Bachampore.		Barergaol.		Gauhati.			
		From Allahabad.	From Allahabad.	From Allahabad.	From Allahabad.	From Allahabad.	From Allahabad.	From Allahabad.	From Allahabad.	From Allahabad.	From Allahabad.	From Allahabad.	From Allahabad.	From Allahabad.	From Allahabad.	From Allahabad.	From Allahabad.	From Allahabad.	From Allahabad.	From Allahabad.	From Allahabad.	From Allahabad.			
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
		Below zero.	Below zero.	Below zero.	Below zero.	Below zero.	Below zero.	Below zero.	Below zero.	Below zero.	Below zero.	Below zero.	Below zero.	Below zero.	Below zero.	Below zero.	Below zero.	Below zero.	Below zero.	Below zero.	Below zero.	Below zero.	Below zero.	Below zero.	Below zero.
1st		1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85
2nd		1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85
3rd		1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85
4th		1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85
5th		1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85
6th		1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85
7th		1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85
8th		1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85
9th		1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85
10th		1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85
11th		1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85
12th		1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85
13th		1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85
14th		1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85
15th		1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85
16th		1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85
17th		1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85
18th		1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85
19th		1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85
20th		1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85
21st		1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85
22nd		1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85
23rd		1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85
24th		1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85
25th		1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85
26th		1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85
27th		1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85
28th		1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85
29th		1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85
30th		1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85
31st		1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85

T. H. CLEWIS,
Under-Secy. to the Govt. of Bengal.

CALCUTTA,
The 21st June 1898.

Weekly Return of Traffic Receipts on Indian Railways.

EAST INDIAN RAILWAY.

Approximate Return of Traffic for week ended 4th June 1898 on 1,703.09 miles open.

	COACHING TRAFFIC.		MERCHANDISE AND MINERAL TRAFFIC.		Other earnings (estimated).	Total earnings.	TRAFFIC TRAIL-MILES OPEN.		
	Number of passengers.	Coaching receipts.	Weight carried.	Receipts.			Coaching.	Merchandise.	Total.
Total traffic for the week ...	589,758	Rs. 3,00,548 10 6	Mds. 43,97,400 30	Rs. 8,53,947 5 0	Rs. 21,768 3 8	Rs. 12,18,850 15 0	91,458	1,27,550	2,19,008
Or per mile of railway ...	346 1 5	176 1 5	25 7 10	494 4 6	12 12 2	715 2 1	...	...	...
For previous 21½ weeks of half-year.	12,728,753*	70,84,381 11 0*	9,51,03,532 30†	1,86,17,136 15 0†	4,77,086 0 0‡	2,66,83,824 8 0	1,987,729§	2,346,180||	5,333,909
Total for 22½ weeks	7,588,506	70,84,330 5 0	9,55,01,083 30	1,94,11,084 2 0	4,98,781 9 0	2,79,04,475 7 0	2,078,187§	5,783,924||	7,862,111
COMPARISON.									
Total for corresponding week of previous year	580,427¶	2,14,540 0 7	43,57,793 30	8,57,054 9 8	20,189 0 1	11,92,433 10 4	91,128	1,24,880	2,16,008
Per mile of railway corresponding week of previous year	...	124 12 1	...	508 12 8	11 15 9	700 5 8	...	...	...
Total for corresponding 21½ weeks of previous year	7,091,402	74,46,543 3 7	9,51,73,000 10	1,92,03,821 1 11	4,96,368 3 0	2,66,40,940 13 6	2,030,012	5,461,096||	7,491,108

* Added No. of passengers 11,917 and
 † Deducted Mds. 2,10,404 and
 ‡ Added

Rs. 4,982 }
 " 19,855 } on account of difference between the approximate and audited figures for the week ended
 " 4,346 } and 30th April 1898.

TAKHESSEUR BRANCH RAILWAY.

Approximate Return of Traffic for week ended 4th June 1898 on 22.23 miles open.

	COACHING TRAFFIC.		MERCHANDISE AND MINERAL TRAFFIC.		Other earnings (estimated).	Total earnings.	TRAFFIC TRAIL-MILES OPEN.		
	Number of passengers.	Coaching receipts.	Weight carried.	Receipts.			Coaching.	Merchandise.	Total.
Total traffic for the week ...	18,884	Rs. 4,321 5 0	Mds. 12,680 10	Rs. 571 7 0	Rs. 10 4 2	Rs. 5,403 12 0	1,304	51	1,355
Or per mile of railway ...	848 0 0	210 15 2	568 10 0	25 11 2	0 7 2	243 0 7	...	...	...
For previous 21½ weeks of half-year.	398,005*	1,46,301 9 0*	2,53,322 10†	14,265 11 0†	280 0 0‡	1,50,776 4 0	23,539	1,301	24,840
Total for 22½ weeks	538,887	1,51,128 14 6	2,66,012 20	14,837 2 0	219 0 0	1,56,179 0 0	24,843	1,302	26,145
COMPARISON.									
Total for corresponding week of previous year	28,427¶	4,915 0 6	14,137 0	606 11 0	6 0 0	5,576 14 6	1,109	72	1,181
Per mile of railway corresponding week of previous year	...	221 1 1	...	26 8 2	0 3 0	250 14 0	...	...	...
Total for corresponding 21½ weeks of previous year	500,280	1,50,100 1 9	4,01,903 0	12,711 6 0	127 10 3	1,54,936 5 0	24,133	1,300	25,433

* Added number of passengers 4,920 and deducted Rs. 42 }
 † Deducted Mds. 194 and added " 2 } on account of difference between the approximate and audited figures for the week ended
 ‡ Added " 2 } and 30th April 1898.

DELHI-UMBALLA-KALKA RAILWAY.

Approximate Return of Traffic for week ended 4th June 1898 on 162.24 miles open.

	COACHING TRAFFIC.		MERCHANDISE AND MINERAL TRAFFIC.		Other earnings (estimated).	Total earnings.	TRAFFIC TRAIL-MILES OPEN.		
	Number of passengers.	Coaching receipts.	Weight carried.	Receipts.			Coaching.	Merchandise.	Total.
Total traffic for the week ...	19,880	Rs. 14,048 18 0	Mds. 1,06,177 30	Rs. 14,780 12 0	Rs. 35 0 0	Rs. 14,815 12 0	6,874	4,084	10,958
Or per mile of railway ...	123 0 0	86 9 8	653 10 0	91 6 8	0 8 0	91 6 8	...	...	...
For previous 21½ weeks of half-year.	611,576*	24,03,687 5 0*	21,08,218 30†	2,11,917 13 0†	1,941 0 0‡	2,13,858 13 0	1,03,125	1,00,037	2,03,162
Total for 22½ weeks	631,456	4,54,571 5 0	22,20,397 10	2,26,006 5 0	1,994 0 0	2,27,999 11 0	1,00,000	1,00,000	2,00,000
COMPARISON.									
Total for corresponding week of previous year	14,880	12,373 3 5	77,883 10	11,123 2 0	43 5 0	12,416 11 2	6,464	4,084	10,548
Per mile of railway corresponding week of previous year	...	80 0 0	...	69 0 0	0 3 0	76 11 2	...	...	...
Total for corresponding 21½ weeks of previous year	586,494¶	3,36,379 0 5	19,84,807 30	2,44,118 1 11	1,837 12 3	2,46,955 7 5	1,03,114	95,804	1,98,918

* Added No. of passengers 701 and deducted Rs. 575 }
 † Disto Mds. 80,884 and " 205 } on account of difference between the approximate and audited figures for the week ended
 ‡ Deducted " 10 } and 30th April 1898.

EASTERN BENGAL STATE RAILWAY.

(INCLUDING N. B., DACCA, K.-D., AND ASSAM-BHAR SECTION.)

Approximate Return of Traffic and Mileage for the week ended 11th June 1898 on 819 miles open.

	COACHING TRAFFIC.		MERCHANDISE AND MINERAL TRAFFIC.		Other earnings (including ferry).	Total earnings.	TRAFFIC TRAIN-MILES RUN.		
	Number of passengers.	Coaching receipts.	Weight carried.	Receipts.			Coaching.	Merchandise.	Total.
		Rs. A. P.	Mds. S.	Rs. A. P.	Rs. A. P.	Rs. A. P.			
Total traffic for the week ...	303,180	50,280 0 0	702,220 0	1,06,100 0 0	6,100 0 0	3,06,790 0 0	31,700	21,536	53,236
per mile of railway ...	369	118 0 0	858 0	130 0 0	1 0 0	728 0 0	...	...	...
for previous 52 weeks of half-year ...	4,875,087	33,83,303 0 0	1,80,88,008 0	31,70,304 0 0	3,33,040 0 0	55,00,334 0 0	744,306	707,373	1,451,679
Total for 52 weeks ...	4,807,247	34,00,585 0 0	2,01,51,132 0	32,79,404 0 0	3,55,040 0 0	60,00,124 0 0	777,048	819,306	1,596,354
COMPARISON.									
Total for corresponding period of previous year ...	196,230	54,977 0 0	2,25,032 0	30,038 0 0	4,000 0 0	1,00,005 0 0	32,007	21,673	53,680
per mile of railway corresponding week of previous year ...	240	114 0 0	770 0	131 0 0	2 0 0	330 0 0	...	...	...
Total in corresponding date of previous year ...	4,641,030	34,10,114 0 0	1,80,34,085 0	37,33,948 0 0	3,44,301 0 0	54,57,046 0 0	715,007	700,573	1,415,580

* Audited up to 31st April 1898.

† Excluding steam-boat earnings.

DACCA STATE RAILWAY.

Approximate Return of Traffic and Mileage for the week ended 11th June 1898 on 86 miles open.

	COACHING TRAFFIC.		MERCHANDISE AND MINERAL TRAFFIC.		Other earnings.	Total earnings.	TRAFFIC TRAIN-MILES RUN.		
	Number of passengers.	Coaching receipts.	Weight carried.	Receipts.			Coaching.	Merchandise.	Total.
		Rs. A. P.	Mds. S.	Rs. A. P.	Rs. A. P.	Rs. A. P.			
Total traffic for the week ...	21,780	7,339 0 0	21,020 0	1,300 0 0	110 0 0	9,810 0 0	1,547	1,531	3,078
per mile of railway ...	253	84 0 0	245 0	33 0 0	1 0 0	108 0 0	...	...	...
for previous 52 weeks of half-year ...	550,548	1,07,305 0 0	2,13,102 0	70,478 0 0	4,300 0 0	2,00,050 0 0	37,136	40,508	77,644
Total for 52 weeks ...	572,328	1,74,086 0 0	2,00,072 0	80,805 0 0	4,310 0 0	2,02,006 0 0	39,778	42,039	81,817
COMPARISON.									
Total for corresponding week of previous year ...	30,540	8,703 0 0	13,345 0	1,301 0 0	33 0 0	7,100 0 0	2,377	1,100	3,477
per mile of railway corresponding week of previous year ...	359	67 0 0	264 0	15 0 0	1 0 0	82 0 0	...	...	...
Total in corresponding date of previous year ...	498,096	1,07,008 0 0	7,23,803 0	60,044 0 0	4,020 0 0	2,12,120 0 0	30,207	30,310	60,517

* Audited up to 31st April 1898.

BENGAL CENTRAL RAILWAY COMPANY, LIMITED.

Approximate Return of Traffic and Mileage for the week ended 11th June 1898 on 125 miles open.

	COACHING TRAFFIC.		MERCHANDISE AND MINERAL TRAFFIC.		Other earnings.	Total earnings.	TRAFFIC TRAIN-MILES RUN.		
	Number of passengers.	Coaching receipts.	Weight carried.	Receipts.			Coaching.	Merchandise.	Total.
		Rs. A. P.	Mds. S.	Rs. A. P.	Rs. A. P.	Rs. A. P.			
Total traffic for the week ...	80,004	19,080 0 0	48,715 0	2,075 0 0	247 0 0	16,380 0 0	5,120	2,907	8,027
per mile of railway ...	320	96 0 0	390 0	34 0 0	3 0 0	133 0 0	...	...	...
for previous 52 weeks of half-year ...	714,346	3,08,163 0 0	13,04,133	73,027 0 0	63,023 0 0	4,01,171 0 0	1,11,000	66,000	1,77,000
Total for 52 weeks ...	744,350	3,17,348 0 0	13,52,947 0	75,040 0 0	63,250 0 0	4,76,651 0 0	1,16,740	66,076	1,82,816
COMPARISON.									
Total for corresponding week of previous year ...	57,851	20,300 0 0	51,163 0	4,830 0 0	50 0 0	16,570 0 0	4,707	2,637	7,344
per mile of railway corresponding week of previous year ...	308	100 0 0	409 0	37 0 0	...	300 0 0	...	...	...
Total in corresponding date of previous year ...	781,044	3,08,740 0 0	13,05,664 0	60,544 0 0	3,370 0 0	4,11,370 0 0	10,310	51,744	62,054

* Audited up to 31st April 1898.

BENGAL AND NORTH-WESTERN RAILWAY.

(INCLUDES TIRHUT STATE RAILWAY.)

Approximate Return of Traffic for the week ending 4th June 1898 on 865* miles open.

	COACHING TRAFFIC.		MERCHANDISE AND MINERAL TRAFFIC.		Other earnings (estimated), including steam-bowl.	Total earnings.	TRAFFIC TRAIN-MILES RTD.		
	Number of passengers.	Receipts.	Weight carried.	Receipts.			Coaching.	Merchandise.	Total.
Total traffic for the week on 865* miles open	127,990	Rs. 4,154,479	Mds. 8,76,680	Rs. 1,68,870	Rs. 17'41	Rs. 1,114,140	80,878	1,032,466	1,113,344
Or per mile of railway	147'84	48'36	10'07	19'41	0'20	128'37	92'78	119'36	121'14
For previous 52 weeks of half-year (d)	2,507,640	10,55,954	1,74,62,184	16,03,439	3,20,233	30,16,445	414,467	516,866	931,333
Total for 52 weeks	2,784,590	11,23,374	1,76,23,234	16,86,089	3,44,312	31,32,755	434,739	548,830	983,569
COMPARISON.									
Total for corresponding week of previous year on 815 miles open	119,520	46,991	7,10,881	71,794	23,260	1,42,050	15,503	1,25,304	1,40,807
Per mile of railway corresponding week of previous year	146'00	57'58	871'81	88'00	28'64	174'29	18'99	151'96	173'14
Total to corresponding date of previous year	3,488,165	10,47,056	1,34,64,730	14,17,762	4,37,356	29,02,178	348,508	417,025	765,533

* The mileage given here is the average for the week. The Balmampur-Talpur Branch, viz., 18½ miles, was opened from the 1st June 1898.

- (a) increase due to auspicious season for celebrating Hindu marriages,
 (b) decrease chiefly due to the traffic taken over at Mukamsh Ghat being restricted by the H. L. Ry.
 (c) includes 1,070 miles of ballast trains run on open line.
 (d) audited figures up to week ending 5th April 1898.
 (e) " 1,032 miles of ballast trains run on open line.

ASSAM-BENGAL RAILWAY.

Approximate Return of Traffic for the Week ended 11th June 1898 on 286 miles open.

	COACHING TRAFFIC.		MERCHANDISE AND MINERAL TRAFFIC.		Other earnings (estimated).	Total earnings.	TRAFFIC TRAIN-MILES RTD.		
	Number of passengers.	Coaching receipts.	Weight carried.	Receipts.			Coaching.	Merchandise.	Total.
Total traffic for the week	26,170	Rs. 14,933 0 0	Mds. 2,26,477 0	Rs. 10,300 0 0	Rs. 248 0 0	Rs. 25,605 0 0	8,378	4,584	12,962
Or per mile of railway	91'88	52'30	791'48	36'34	0'85	89'49	29'26	17'44	46'70
For previous 52 weeks of half-year	585,745	2,51,409 0 0	62,20,519 0	1,92,761 0 0	14,520 0 0	6,58,756 0 0	68,478	1,02,108	170,586
Total for 52 weeks	611,915	2,66,342 0 0	64,46,996 0	2,03,161 0 0	14,768 0 0	6,84,351 0 0	71,551	1,07,630	179,181
COMPARISON.									
Total for corresponding week of previous year	19,700	9,120 0 0	1,10,818 0	10,188 0 0	678 0 0	10,197 0 0	3,358	7,140	10,498
Per mile of railway corresponding week of previous year	68'76	32'33	384'20	36'15	2'33	35'70	11'55	24'93	36'48
Total to corresponding date of previous year	472,641	2,00,000 0 0	41,24,400 0	2,04,238 0 0	11,078 0 0	4,94,376 0 0	55,612	149,106	204,718

* Includes audited figures up to week ending 7th May 1898.

FINANCIAL YEAR.

Approximate Statement of Gross Receipts of the Assam-Bengal Railway.

RECEIPTS FOR WEEK ENDING 11th JUNE 1898.			RECEIPTS FOR WEEK ENDING 11th JUNE 1897.			TOTAL RECEIPTS FROM 1st APRIL 1898 TO 11th JUNE 1898.			TOTAL RECEIPTS FROM 1st APRIL 1897 TO 11th JUNE 1897.			Total increase in 1898.	Total decrease in 1897.
Mean mileage worked.	Receipts.	Per mile worked.	Mean mileage worked.	Receipts.	Per mile worked.	Mean mileage worked.	Total receipts.	Per mile worked.	Mean mileage worked.	Total receipts.	Per mile worked.		
286	Rs. 25,605	89'49	286	Rs. 10,197	35'70	286	Rs. 2,61,688	912'51	286	Rs. 2,05,231	717'59	Rs. 43,657	—

DAKSHINATYAKA-HIMALAYAN RAILWAY COMPANY, LIMITED.

Approximate earnings for the week ending 11th June 1898	Rs. 12,802 0 0
Corresponding period of 1897	Rs. 13,072 0 0
Decrease	Rs. 270 0 0
Receipts per mile for the week ending 11th June 1898	Rs. 251 0 4
Do for the corresponding period of 1897	Rs. 265 1 5
Decrease	Rs. 14 11
Receipts from 1st January to 11th June 1898	Rs. 3,04,431 0 0
Do for the corresponding period of 1897	Rs. 3,01,528 0 0
Decrease	Rs. 2,903 0 0



SUPPLEMENT TO The Calcutta Gazette.

WEDNESDAY, JUNE 29, 1898.

OFFICIAL PAPERS.

[Non-Subscribers to the GAZETTE may receive the SUPPLEMENT separately on payment of Six Rupees per annum if delivered in Calcutta, or Twelve Rupees if sent by Post.]

CONTENTS.

	Page.		Page.
WEATHER and Crop Report for (the week ending 27th June 1898)	1279	RESULTS of the Barometrical and Thermometrical Observations taken at the Meteorological Office, Calcutta, from 10th to 25th June 1898	1287
Average wholesale prices-current of food-grains, firewood, &c., in the undermentioned parts of Bengal for the year ending 31st March 1898	1283	Abstract statement showing Tollage on Canals in Bengal classed as Major and Minor works for the month of April 1898	1288
Results of the Meteorological Observations taken at the Alipore Observatory from 19th to 25th June 1898	1286	Circular and Western Circulars for the week ending Saturday, the 25th June 1898	1290
		Weekly return of Traffic Receipts on Indian Railways	1290

WEATHER AND CROP REPORT.

For the week ending the 27th June 1898.

Burdwan.—Rainfall at Sadar 6·28, Kalna 5·25, Katwa 5·48, Raniganj 6·28. Weather very hot. Rain of last week has done much good to standing crops. Weeding of *aus* paddy continues. Transplantation of *aman* paddy commencing. Fodder and water sufficient. Common rice selling as follows:—

	Srs.	
Sadar	11½ to 16	} per rupee.
Kalna	12 to 13	
Katwa	13 to 14	
Raniganj	18	

Birbhum.—Rainfall at Sadar 9·33, Rampur Hat 11·37. Weather hot and cloudy. Ploughing and sowing of paddy going on. Paddy seedlings doing well. Fodder sufficient. Price of rice at Sadar 12 seers and at Rampur Hat 13·14 seers per rupee.

Bankura.—Rainfall at Sadar 1·14, Vishnupur 2·93. Weather sultry and occasionally overcast. Rain wanted. Harvesting of *til* over. Fodder and water sufficient. No cattle disease reported. Common rice sells at 14 seers a rupee at Sadar and Vishnupur.

Midnapore.—Rainfall at Sadar 5·56, Contai 2·22. Prospects of indigo and sugarcane hopeful. Ploughing and sowing continue. Price of common rice at Sadar 13 seers and at Contai 13 to 14 seers per rupee. Reports from Tamluk and Ghatal not received. Results of floods not yet ascertained.

Hooghly.—Rainfall at Sadar 2·49, Serampore 99, Jahanabad 1·79. Jute and *aus* plants doing well. Lands being prepared for sowing winter paddy. At Jahanabad the overflow of the river *Durokeswar* has damaged the winter paddy seedlings and other vegetables of the field. Common rice sells from 10 to 12½ seers per rupee.

Howrah.—Rainfall at Sadar 49, Ulubaria 1·34. Weather hot. Sowing of *aman* going on. *Aus*, jute, and sugarcane somewhat damaged in Ulubaria by floods in the Damodar and Rupnarain. Fodder and water available. Common rice sells at 10½ to 12 seers per rupee.

24-Parganas.—Rainfall at Sadar 79, Barasat 68, Basirhat 122, Diamond Harbour 100. Weather hot. Jute and *aus* plants doing well. Weeding of jute and *aus* and sowing of *aman* going on. Fodder and water sufficient. Cattle-disease diminishing. Common rice sells as follows:—

			Srs.	
Sadar	10 to 12	} per rupee.
Barasat	...	...	11½
Basirhat	...	...	13
Diamond Harbour	...	...	11½

Nadia.—Rainfall at Sadar 447, Meherpur 441, Kushtia 340. Weeding and harrowing continuing. The rain has damaged the young paddy plants in Meherpur to some extent. Indigo, sugarcane, and jute doing well. Common rice selling at 10 to 11 seers 7 chittaks per rupee. Fodder and water sufficient. A few cases of cattle-pox in thanas Sadar and Tehatta.

Murshidabad.—Rainfall at Sadar 1152, Jangipur 464, Kandi 1277. Weather very hot in the latter part of the week. *Bhadoi* and jute plants are thriving well. The state of indigo and mulberry seems to be good. Lands are being prepared for sowing of *haimanti* paddy. No cattle-disease reported. Fodder and water sufficient. Common rice sells at Sadar 12½ seers, Jangipur 14 seers, and Kandi 13 seers per rupee.

Jessore.—Weather variable: generally hot and close. Rainfall at Jessore 289, Jhenida 365, Magura 444, Narail 392, Bangaon 297. Sowing almost over. Weeding and harrowing going on. Prospects of standing crops fair. No cattle-disease. Fodder and water sufficient. Common rice sells as follows:—

			Srs.	
Jessore	11 to 13	} per rupee.
Jhenida	...	...	11
Magura	...	...	11½ to 12
Bangaon	...	...	11½ to 12½
Narail	...	...	6-6½ ch.

Khulna.—Rainfall at Sadar 471, Bagerhat 720, Satkhira 243. Weather seasonable. Cultivation of *aman* paddy going on. Fodder and water available. Common rice sells as follows:—

			Srs.	
Sadar	...	...	10½ to 13	} per rupee.
Bagerhat	...	...	11	
Satkhira	...	...	13	

Rajshahi.—Rainfall at Sadar 677, Nator 821, Nangaon 919. Prospects of crops good. No cattle-disease. Fodder and water ample. Rice sells from 11 to 13 seers per rupee.

Dinajpur.—Average rainfall 789. Weather rainy for the most part of the week, close and sultry towards its end. Condition of the standing crops good. Cultivation of *haimanti* commenced. Fodder and drinking-water ample. No cattle-disease. Rice selling at 13 seers per rupee.

Jalpaiguri.—Weather rainy and hot. Rainfall at Sadar 1424, Alipur Duars 1726. Cultivation of *haimanti* paddy going on. Prospects of standing crops favourable. Common rice sells from 7 to 14 seers a rupee. Fodder and water sufficient.

Darjeeling.—Rainfall at Darjeeling 522, Siliguri 506. Weather seasonable. *Hills*—*Bhutta*, potatoes and *marua* doing well. *Terai*.—Jute, *bhadoi* and sugarcane doing well. Coarse rice sells—

Hills—8 to 11 seers per rupee.
Terai—11 to 15 " " "

Bhutta sells from 18 to 28 seers per rupee.

Rangpur.—Rainfall at Sadar 1120, Gaibanda 1249, Nilphamari 1389, Kurigram 1587. *Aus* being harvested. Lands under preparation for transplantation of winter rice. Prospects fair. Common rice selling at 9 to 13 seers per rupee. Fodder and water sufficient.

Bogra.—Average rainfall 900. Ploughing of lands for *aman* continues with vigour. Sowing of *aman* going on. Fodder and water sufficient. Common rice sells from 10 to 12½ seers a rupee.

Pabna.—Rainfall at Sadar 282, Sirajganj 873. Weather cloudy and rainy. Crops doing very well. Price of rice 9 to 12 seers per rupee, but rice sells at 10 to 11 seers in the majority of thanas.

Dacca.—Rainfall at Sadar 6·65, Manikganj 6·64, Munshiganj 6·34, Narainganj 5·38. Weather cloudy and rainy. Prospects of crops good. Fodder available. No cattle-disease this week. Common rice 10 to 11 seers per rupee.

Mymensingh.—Rainfall at Sadar 17·25, Netrokona 15·56, Kishorganj 17·45, Jamalpur 14·05, Tangail 7·03. Continuous rain. *Aus* and jute doing well. Sowing of *aman* begun. Cattle in good condition. Fodder and water-supply ample. Rice selling at 9 to 11 seers per rupee.

Faridpur.—Rainfall at Sadar 5·92, Goalundo 5·02, Madaripur 8·93. Weather damp and close, rainy. Prospects of crops good. Fodder and water sufficient. Common rice sells at 11 seers per rupee.

Backergunge.—Rainfall at Sadar 2·66. Weather warm. Prospects of crops fair. Common rice sells from 8 to 12 seers per rupee.

Tippera.—Rainfall at Sadar 8·25, Brahmanbaria 8·63, Chandpur 4·83. Weather seasonable. Prospects of crops favourable. Paddy and jute plants thriving. Harvesting of chillies almost completed. Fodder and water sufficient. Common rice sells at 8 to 11 seers per rupee.

Noakhali.—Rainfall at Sadar 5·38, Feni 13·68. Prospects of crops good. Cattle-disease continues at Ramganj. Fodder and water sufficient. Price of rice 10 to 12 seers per rupee.

Chittagong.—Rainfall 14·95. Weather seasonable. *Aus* being sown. Prospects improving. Rice selling at 11 seers per rupee.

Patna.—Rainfall at Sadar 1·86, Barh 1·70, Bihar 1·62, Dinapur 2·94, Hilsa 1·75, Bikram 1·40. Sowing of paddy commenced. Harvesting of *china* nearly completed. Transplantation of *marua* and sowing of Indian-corn going on. Prices almost stationary. Common rice selling at 15 seers per rupee in Patna. Fodder and water for cattle sufficient.

Gaya.—Rainfall at Sadar 1·18, Jahanabad 1·93, Aurangabad 1·97, Nawada 5·24. Ploughing and *bhadoi* sowing going on. *Marua* being transplanted. More rain wanted. Price of common rice 14 seers per rupee.

Shahabad.—Rainfall at Sadar 2·42, Buxar 1·33, Sasaram 1·07, Bhabua 1·06. Sugarcane good. *Bhadoi* sowings progressing. More rain wanted. Fodder and water sufficient. Cattle-disease in one village in Sasaram. Common rice at Sadar 13 seers per rupee.

Saran.—Rainfall at Sadar 1·62, Siwan 2·65, Gopalganj 1·32. Weather sultry. Indigo and sugarcane very good. *Bhadoi* sowings commenced. Seeds germinating well. Fodder and water sufficient. Cattle-disease continues in north. Average prices are—common rice 12·9 seers and *makai* 20·15 seers, against 8·3 seers and 10 seers respectively last year.

Champaran.—Condition of standing crops improved by rain. *Bhadoi* sowings continue. Some weeding going on. Transplantation of paddy has commenced in some places, but more rain is wanted. Fodder and water sufficient. Common rice sells at Sadar 11½ seers per rupee, against average 14½ seers.

Muzaffarpur.—Rainfall at Sadar 1·27, Hajipur 2·62, Sitamarhi 5·75. Prospects good. *Bhadoi* sowings in progress. Rain seriously wanted, especially in the Sadar subdivision. Prices as under—common rice 11 to 13 seers, wheat 14 to 15 seers, barley 22 to 23 seers, *makai* 19 to 20 seers, gram 19 to 20 seers, and *rakar* 22½ seers a rupee.

Darbhanga.—Rainfall at Sadar 1·92, Samastipur 1·49, Madhubani 3·23. Weather generally cloudy and hot. Sowing of *bhadoi* going on. More rain wanted. Fodder and water available. Price of common rice stationary at Sadar.

Monghyr.—Rainfall at Sadar 1·05, Begusarai 1·77, Jamni 1·76. Weather very hot. *Bhadoi* sowings continue. State of standing crops excellent. Common rice sells as follows:—

Monghyr	...	...	...	12 to 16 seers per rupee.
Begusarai	...	...	...	11 to 13 " "
Jamui	...	...	...	14 " "

Bhagalpur.—Weather excessively hot. Rainfall at Sadar 1·11, Banka 3·91, Madhipura 2·63, Supaul 3·99. Sugarcane and indigo doing well. Cattle-disease reported from Bhinnagore and Protaganj in the Supaul subdivision. Prices of common rice are as follows:—

			Srs.	ch.
Sadar	...	...	13	14 per rupee.
Banka	...	...	15	" "
Madhipura	...	...	16	" "
Supaul	...	...	16	" "

Purnea.—Rainfall at Sadar 1·69, Kishanganj 4·43, Araria 5·07. Weather hot and cloudy. Prospects of standing crops good. Transplantation facilitated by recent rain. Rivers rising. Twenty-four cases of *kaladukh* reported from outpost Bhatgaon, out of which three are said to have recovered. Cattle-disease reported from Matari and Sikti outposts in the Araria sub-division. Fodder and water sufficient. Common rice selling as follows:—

	Srs.	
Sadar	...	15 to 16
Kishanganj	...	15
Araria	...	15

} per rupee.

Malda.—Rainfall at Sadar 5·03, Chanlohal 6·69, Shibganj 1·71, Gajole 8·14. Weather hot and cloudy with occasional showers. *Bhadai* paddy and jute are being weeded. Seedlings of winter rice are ready for transplantation. Coarse rice sells at 12 seers per rupee. Fodder ample.

Sonthal Parganas.—Average rainfall 4·44. Ploughing is in full progress. Transplantation retarded for want of seedlings. Sowing of Indian-corn commenced. Fodder and water-supply sufficient. Price of common rice 12 to 14 seers, and of maize 18 to 20 seers per rupee.

Cuttack.—Rainfall at Sadar 2·32, Jajpur 28, Kendrapara 35, Banki 81, False Point 17. Weather very hot and rain required. *Gura* and *laghu sarad* growing. Cotton being plucked. Jute being sown. Condition of cattle generally good, but disease still continues in places. Fodder sufficient. Common rice sells as follows:—

	Srs.	
Cuttack	...	12½
Jajpur	...	15½
Kendrapara	...	18½
Banki	...	15½

} per rupee.

Balasore.—Rainfall at Sadar 07. Sugarcane growing well. Sowing continues. Seedlings that are out are thriving well. *Aus* seedlings are growing well. Price of rice varies from 13 to 18 seers per rupee. Rice sells at 13 and 16 seers per rupee at Balasore and Bhadrak respectively. Fodder and water sufficient.

Angul.—Rainfall at Angul nil, and at Khondmals 3·46. Sowing of paddy and *bhadai* crops still going on. Common rice selling at 20 seers per rupee at Angul and 12 seers at Khondmals.

Puri.—Rainfall at Puri 03, Khurda 50. Sowing of *sarad* continues. *Beri* plants growing well. Cotton being gathered. Sugarcane promise well. Fodder and water sufficient. No cattle-disease reported. Common rice sells as follows:—

	Srs.	ch.	
Puri	...	11	13
Khurda	...	13	12
Interior of district	...	11-13	to 17-1

} per rupee.

Hazaribagh.—Rainfall at Sadar 44, Giridi 77. Weather seasonable. Sowing in progress. Excellent mango crop. Rice sells at 10 to 12 seers per rupee.

Lohardaga.—Ploughing and sowing continues. State of standing crops good. Rice sells at Ranchi 11 seers per rupee, and in the interior from 11 to 15 seers per rupee. Cattle-disease diminishing. Fodder and water sufficient. Grain in stock sufficient.

Palamau.—Rainfall at Sadar 1·14. Weather hot. More rain wanted for cultivation of *bhadai*. Sugarcane doing well. Rice sells from 11 to 15 seers per rupee.

Manbhum.—Rainfall at Sadar 3·74, Gobindpur 4·54. Weather seasonable. Prospects of crops good. Cattle-disease not reported. Fodder and water sufficient. Average price of common rice at Sadar 13 seers per rupee, and at Gobindpur 12 seers per rupee. Supply sufficient.

Singhbhum.—Rainfall 69. Rice plentiful, from 12 to 14 seers per rupee.

General Summary.—There was general rain during the week, and in some parts of Bengal proper it was heavy. More rain is still required in parts of Bihar and Orissa. The cultivation of the autumn crops and of winter rice is progressing. Early rice, jute, sugarcane, and indigo are doing well. The extent of damage done by floods in Midnapore has not yet been ascertained. Floods in parts of Hooghly and Howrah are also reported to have caused some damage to the crops. Prices remain practically stationary. Fodder and water for cattle are generally sufficient, but cattle-disease though diminishing is still reported from certain districts.

By order of the Lieutenant-Governor of Bengal,

REVENUE DEPARTMENT,

The 28th June 1898.

M. FINUCANE,

Secretary to the Govt. of Bengal.

The following statement is published for general information.

M. FINUCANE,

Secretary to the Government of Bengal.

REVENUE DEPT.,
The 22nd June 1898.

AVERAGE WHOLESALE PRICES-CURRENT of Food-grains, Firewood, &c., in
Prices per maund

No.	MARK.	Rice, best sort.	Common rice (mota chaul).	Wheat (<i>Triticum sativum</i>).	Barley (<i>Hordeum vulgare</i>).	Jowar or chulam (<i>Sorghum vulgare</i>).	Rajen or amba (<i>Pennisetum typhoides</i>).	Manna or itagi (<i>Eleusine indica</i>).	(Gram, chana, chhola, kadhalay, or sunag (<i>Cicer arietinum</i>).	Indian-corn or maize (<i>Zea Mays</i>).	Arhar dal or Thar Cadjan pea (<i>Cajanus indicus</i>).	Linseed.	Mustard and rape seed.	Tur oil.
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
		Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.
1	Calcutta ..	6 1 5	4 15 1	4 5 0	3 6 6	3 6 0	4 0 6	...	1 2 7	3 3 11	3 12 8	4 7 11	4 5 3	...
2	Burdwan ...	4 12 0	4 0 10	4 6 10 ^(d)	...	...	...	...	4 5 0	...	5 1 11	...	4 7 11	...
3	Midnapore	4 8 8	3 10 0 ^(c) 3 6 0 ^{(c) avg.}	...	...	...	...	...	4 2 0 ^(e)	...	4 15 11 ^(k)	3 13 4	Mustard, 4 14 3 Rape seed, 12 11 2	...
4	Pabna ...	6 5 7	4 2 4	4 9 0	...	...	...	...	4 6 0	...	2 0 10 ^(d)	3 5 0	4 2 2	...
5	Rangpur ...	6 2 11	4 12 11	6 5 0	...	...	...	...	4 7 6	3 5 1	6 3 2	10 2 8	4 10 10	...
6	Dacca ...	5 1 10	4 0 11	4 11 13 ^(j)	2 15 0	...	...	...	4 9 6	...	5 5 9	...	...	...
7	Chittagong	6 0 3	3 14 9	6 0 0 ^(d)	...	...	...	...	5 1 8	...	...	...	4 10 2	...
8	Patna ...	4 2 6	3 9 15	3 0 0	2 12 4	1 12 3 ^(f)	...	1 15 3 ^(g)	3 9 0	2 3 6 ^(h)	3 1 7	3 3 8	3 13 3	...
9	Muzaffarpur	6 12 4	4 2 11	4 1 11	3 1 8	...	...	2 1 11 ^(A)	4 0 3 ^(j)	2 13 11	5 3 10	...	...	...
10	Rhagulpur	4 14 8	3 15 2	3 15 4	3 4 8	...	...	...	3 14 3	2 11 11 ^(m)	3 5 4 ^(A)	3 13 0 ^(na)	4 4 5 ⁽ⁿ⁾	...
11	Cuttack ...	4 4 7	2 15 11	4 13 2	...	...	...	...	3 1 8	...	3 3 5	...	4 2 11 ^(o)	...
12	Ranchi ...	5 9 10 ^(m)	4 6 9 ^(m)	6 2 11 ^(m)	4 9 7 ^(e)	...	...	...	5 1 5 ^(m)	...	7 1 0 ^(m)	4 14 8 ^(m)	4 4 10 ^(m)	...

(a) Average of prices returned for 1 fortnight only.
 (b) Ditto ditto for 2 fortnights only.
 (c) Ditto ditto for 3 ditto.
 (d) Ditto ditto for 6 ditto.
 (e) Ditto ditto for 9 ditto.
 (f) Ditto ditto for 10 ditto.
 (g) Ditto ditto for 11 ditto.

SUPPLEMENT TO THE CALCUTTA GAZETTE, JUNE 29, 1896.

1285

Mentioned Ports of Bengal for the year ending 31st March 1893.

Cotton, cleaned.	Jute.	Ghi (clarified butter).	Tobacco leaf.	Hides (cow).	Grass.	Straw.	Juar stalks.	Iron.	Fire-wood.	SALT.				Ports.
										Punga.	Crushed.	Kar-kach.	Mixed.	
17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	
15 6 0	4 14 8	31 11 4	6 15 0	249 5 0	Per 100 pieces. 6 8 0	Per kulan. 5 2 11	...	5 8 8	0 7 0	3 8 10	...	...	...	1. Calcutta.
...	...	20 4 4	...	...	...	5 12 7	...	...	0 8 0	...	3 7 8	...	...	2. Burdwan.
...	Unclean, per piece 1 8 3 clean, per piece. 1 12 2	...	1 12 5	...	4 8 8	(f) 0 3 11	(m) 3 11 0	(e) 3 8 11	...	...	3. Midnapore.
...	0 14 3	...	8 0 0	0 4 0	3 15 2	...	...	...	4. Pabna.
...	6 bundles per rupee.	7 bundles per rupee.	...	8 8 4	0 7 11	4 2 8	...	...	...	5. Rangpur.
...	Per maund. 28 0 0	Per maund. 3 11 8	...	...	5 2 0	0 4 1	(m) 3 14 0	(l) 0 8 14 0	...	...	6. Dacca.
...	Per maund. 18 9 4	...	...	...	(n) 5 1 4	(b) 0 8 0	4 0 2	...	...	...	7. Chittagong.
...	Per maund. 0 6 3	(n) Per maund. 0 6 5	...	3 0 0	0 5 0	3 10 4	...	...	...	8. Patna.
...	8 0 0	0 4 0	3 10 8	...	...	...	9. Muzaffarpur.
...	(n) 5 8 8	(m) 0 8 7	(l) 3 14 6	...	(b) 3 15 0	...	10. Bhawalpur.
...	Per maund. 22 8 0	Per kulan. 20 0 0	(m) Per maund. 2 13 2	...	4 8 0	0 4 1	...	...	3 2 3	...	11. Cuttack.
...	(m) Per piece. 1 8 10	(m) Per maund. 3 7 0	No fixed rate.	...	(m) 5 11 0	(m) 0 4 0	(m) 4 8 0	...	...	...	12. Ranchi.

(4) Average of prices returned for 13 fortnights only.
 (i) Ditto ditto for 10 ditto.
 (j) Ditto ditto for 19 ditto.
 (k) Ditto ditto for 20 ditto.
 (l) Ditto ditto for 21 ditto.
 (m) Ditto ditto for 22 ditto.
 (n) Ditto ditto for 23 ditto.

Results of the Meteorological Observations taken at the Alipore Observatory from 19th to 25th June 1898

Month.	Date.	Maximum in sun.	Number of hours of bright sunshine.	Mean pressure barometer at 32° Fabr.	TEMPERATURE.				HYGROMETRY.				WIND.		Rain.	Weather.
					Mean.	Maximum.	Range.	Minimum.	Mean wet bulb.	Vapour tension.	Dew point.	Humidity.	Prevailing direction.	Miles recorded.		
1898.				Inches.	°	°		°	°	Inches.		%			Inches.	
June	19th	128.5	N2	29.482	84.1	87.7	7.5	80.2	79.8	0.961	78.0	82	SW and WSW ...	285	Nil	Cloudy, p.
"	20th	146.9	4.0	480	85.6	92.6	13.4	79.2	81.8	1.010	79.5	83	SW and SSW ...	172	0.21	Chiefly p.
"	21st	146.2	Nil	469	87.2	93.5	11.0	82.2	81.9	1.020	79.9	79	SW, WSW, and S by W.	189	Nil	Cloudy, c.
"	22nd	148.8	6.8	467	88.6	97.3	14.9	82.4	82.1	1.012	79.6	76	SW, WSW, and SSW.	211	"	Partially cl.
"	23rd	141.6	1.9	522	84.2	88.5	11.9	76.6	79.8	0.962	78.1	82	SSE, SSE, and variable.	189	0.01	Chiefly cl. J. L.
"	24th	145.7	9.0	550	84.2	92.6	20.4	72.2	79.8	0.913	76.5	77	SSW and ESE ...	105	0.05	Chiefly cl.
"	25th	151.7	9.4	559	88.7	96.8	16.5	80.4	81.3	0.979	78.8	71	SSW and WNW	86	Nil	Chiefly cl. d.

The mean pressure of the seven days	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	Inches. 29.504
The average pressure of the corresponding period for 24 years, Surveyor-General's Office	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	29.525
The total number of hours of bright sunshine	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	31.1
The maximum possible number of hours of sunshine	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	94.9
The mean temperature of the seven days	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	86.1
The average temperature of the corresponding period for 24 years, Surveyor-General's Office	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	84.4
The extreme variation of temperature	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	25.1
The maximum temperature	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	97.3
The highest velocity of the wind in one hour	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	79
The mean relative humidity	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	84
The average relative humidity of the corresponding period for 24 years, Surveyor-General's Office	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0.87
The total fall of rain from 19th to 25th June 1898	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	3.08
The average fall of the corresponding period for 24 years, Surveyor-General's Office	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	10.39
The total fall from 1st January to 25th June 1898	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	19.45
The average fall of the corresponding period for 24 years, Surveyor-General's Office	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...

The mean pressure, temperature, &c., are deduced from the traces of the Barograph and Thermometer and from observations made at 6h, 10h, 16h, and 22h.

The maximum and minimum temperatures are obtained from self-registering thermometers. The thermometers are verified and the readings have been corrected to a standard constructed and verified at the Kew Observatory. They are exposed under a thatched shed open at the sides, and are suspended above the ground.

The barometer readings are corrected approximately to those of the standard, Newman's, formerly at the Surveyor-General's Office.

The hygrometric elements are obtained from Tables III, IV, and V of the official tables compiled by the Meteorological Office, and based on Regnault's modifications of August's formula.

The directions and the movement of the wind are taken from the trace of a Beckley's anemometer.

The mouth of the rain-gauge is one foot above the ground.

o, overcast; d, drizzling rain; p, passing temporary showers; lr, lightning rain; a, dew.

METEOROLOGICAL OFFICE, GOVT. OF INDIA,
Calcutta, the 27th June 1898.

J. H. GILLILAND,
For Meteorological Reporter to the Govt.

Results of the Barometrical and Thermometrical Observations taken at the Meteorological Office, Chowringhee, from 19th to 25th June 1898.

Date.	Pressure at 10 A.M. corrected and reduced to 32° Fahr.	TEMPERATURE.					HYGROMETRY.					Rainfall, last 24 hours.
		Daily mean.	Maximum.	Range.	Minimum.	Dry bulb at 10 A.M.	Wet bulb at 10 A.M.	Vapour tension at 10 A.M.	Dew point at 10 A.M.	Humidity at 10 A.M.		
Inches.								Inches.		%	Inches.	
19th	29.489	84.0	89.5	9.2	80.8	87.1	81.5	1.001	79.6	78	...	
20th	29.515	87.3	95.0	15.4	79.6	88.6	83.5	1.050	81.6	80	...	
21st	29.501	89.8	97.0	14.5	82.5	92.5	84.3	1.067	81.2	80	0.14	
22nd	29.501	91.4	100.0	17.2	82.8	93.6	84.5	1.089	81.6	80	...	
23rd	29.553	83.4	89.0	11.2	77.8	81.8	79.5	0.911	77.0	79	...	
24th	29.605	81.4	96.0	23.2	72.8	85.6	78.5	0.938	76.3	79	0.41	
25th	29.599	90.4	99.5	18.2	81.3	92.3	82.5	0.975	78.5	81	...	

The mean 10 A.M. pressure of the seven days Inches. 29.538

The mean temperature of the seven days ° 87.4

The extreme variation of temperature 27.2

The maximum temperature 100.0

The mean 10 A.M. relative humidity of the seven days % 74

The total fall of rain from 19th to 25th June 1898 Inches. 0.75

The daily mean temperatures are the crude means of maximum and minimum temperatures.

METEOROLOGICAL OFFICE, BENGAL,

G. W. KÜCHLER,

The 27th June 1898.

Offg. Meteorological Reporter to the Govt. of Bengal.

IRRIGATION DEPARTMENT, BENGAL.

Abstract statement showing Tollage on Canals in Bengal classed as Major Works for the month of April 1898, as compared with that of the corresponding month of the previous year.

CANALS.	TOLLAGE, 1898-99.			TOLLAGE, 1897-98.		
	During the month.	To end of the month.		During the month.	To end of the month.	
1	2	3		4	5	
<i>Orissa Circle.</i>	Rs. A. P.	Rs. A. P.		Rs. A. P.	Rs. A. P.	
Taldanda Canal System	6,990 2 11	6,990 2 11		3,049 4 4	3,049 4 4	
Kendrapara ditto	2,788 1 4	2,788 1 4		9,207 10 5	9,207 10 6	
High Level Canal, Range I	3,200 8 9	3,200 8 9		2,203 14 0	2,203 14 0	
Ditto, " II	543 14 9	543 14 9		298 1 6	298 1 6	
Ditto, " III	267 13 6	267 13 6		75 14 6	75 14 6	
Jajpur Canal	21 11 9	21 11 9		26 12 6	26 12 6	
Total Orissa Circle	13,812 5 0	13,812 5 0		14,861 9 3	14,861 9 3	
<i>South-Western Circle.</i>						
Midnapore Canal	6,000 3 9	6,000 3 9		8,439 7 6	8,439 7 6	
Hijili Tidal Canal	10,236 10 9	10,236 10 9		9,973 9 0	9,973 9 0	
Total South-Western Circle	16,236 14 6	16,236 14 6		18,413 0 6	18,413 0 6	
<i>Sone Circle.</i>						
Patna Canal System	4,942 1 6	4,942 1 6		2,862 10 0	2,862 10 0	
Arrah ditto	3,257 3 9	3,257 3 9		3,587 8 9	3,587 8 9	
Buxar ditto	52 15 6	52 15 6		1,256 0 0	1,256 0 0	
Total Sone Circle	8,252 4 9	8,252 4 9		7,706 2 9	7,706 2 9	
GRAND TOTAL	38,301 8 3	38,301 8 3		40,980 12 6	40,980 12 6	

Government Transport Service.

CANAL.	TOLLAGE, 1898-99.						TOLLAGE, 1897-98.					
	During the month.			To end of the month.			During the month.			To end of the month.		
	Passengers.	Goods.	Total receipts.	Passengers.	Goods.	Total receipts.	Passengers.	Goods.	Total receipts.	Passengers.	Goods.	Total receipts.
1	2	3	4	5	6	7	8	9	10	11	12	13
<i>Orissa Circle.</i>	No.	Mds.	Rs. A. P.	No.	Mds.	Rs. A. P.	No.	Mds.	Rs. A. P.	No.	Mds.	Rs. A. P.
High Level	4,087	104	3,517 4 5	4,087	104	3,517 4 5	4,209	3,431	3,788 8 8	4,200	3,431	3,788 8 8
Total Orissa Circle	4,087	104	3,517 4 5	4,087	104	3,517 4 5	4,209	3,431	3,788 8 8	4,200	3,431	3,788 8 8

Assessed Tollage Receipts.

CANALS.	EARNINGS, 1898-99.			EARNINGS, 1897-98.		
	During the month.	To end of the month.		During the month.	To end of the month.	
1	2	3		4	5	
	Rs. A. P.	Rs. A. P.		Rs. A. P.	Rs. A. P.	
Orissa Canals	17,329 9 5	17,329 9 5		18,620 1 11	18,620 1 11	
Midnapore Canal	6,000 3 9	6,000 3 9		8,439 7 6	8,439 7 6	
Hijili Tidal Canal	10,236 10 9	10,236 10 9		9,973 9 0	9,973 9 0	
Sone Canals	8,252 4 9	8,252 4 9		7,706 2 9	7,706 2 9	
Total	41,818 12 8	41,818 12 8		44,739 5 2	44,739 5 2	

CALCUTTA,

The 28th June 1898.

T. H. CLOWES,

Under-Secy. to the Govt. of Bengal.

IRRIGATION DEPARTMENT, BENGAL.

Abstract statement showing Tollage on Canals in Bengal classed as Minor Works and Navigation for the month of April 1898, as compared with that of the corresponding month of the previous year.

CANALS.	TOLLAGE, 1898-99.		TOLLAGE, 1897-98.	
	During the month.	To end of the month.	During the month.	To end of the month.
1	2	3	4	5
	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.
Calcutta and Eastern Canals ...	19,901 13 6	19,901 13 6	19,328 11 3	19,328 11 3
Tolly's Nala ...	3,641 12 9	3,641 12 9	4,746 8 3	4,746 8 3
Total ...	23,543 10 3	23,543 10 3	24,075 3 6	24,075 3 6
Orissa Const Canal ...	8,881 2 0	8,881 2 0	7,215 5 3	7,215 5 3
Nadia Rivers ...	4,381 9 6	4,381 9 6	3,219 11 6	3,219 11 6
GRAND TOTAL ...	36,806 5 9	36,806 5 9	34,510 4 3	34,510 4 3

CALCUTTA,
The 28th June 1898.

T. H. CLOWES,
Under-Secy. to the Govt. of Bengal.

CIRCULAR AND EASTERN CANALS.

Approximate return of traffic for the week ending Saturday, the 25th June 1898, as compared with the corresponding week of the previous year.

NATURE OF CARGO.	WEEK ENDING SATURDAY, THE 25th JUNE 1898.			WEEK ENDING SATURDAY, THE 26th JUNE 1897.		
	Number of boats.	Weight of cargo.	Tollage.	Number of boats.	Weight of cargo.	Tollage.
	No.	Mds.	Rs.	No.	Mds.	Rs.
Rice and paddy ...	143	16,445	209	144	42,490	676
Jute ...	8	3,150	78	16	7,325	128
Firewood ...	50	38,325	581	66	59,125	915
Other articles ...	420	1,19,282	1,493	598	1,81,015	2,288
Total ...	621	1,80,202	2,365	823	2,89,955	3,908

Weekly Return of Traffic Receipts on Indian Railways.

EAST INDIAN RAILWAY.

Approximate Return of Traffic for week ended 11th June 1898 on 1,705.09 miles open.

	COACHING TRAFFIC.		MERCHANDISE AND MINERAL TRAFFIC.		Other earnings (estimated).	Total earnings.	TRAFFIC TRAIN-MILES RUN.		
	Number of passengers.	Coaching receipts.	Weight carried.	Receipts.			Coaching.	Merchandise.	Total.
		Rs. A. P.	Mds. S.	Rs. A. P.	Rs. A. P.	Rs. A. P.			
Total traffic for the week (or per mile of railway ...)	348,982*	2,16,674 12 0*	43,52,546 30	7,43,541 0 0	33,203 0 0	11,23,013 12 0	80,393	177,916	258,309
For previous 52½ weeks of half-year ...	7,539,305	79,94,530 5 0	1,85,61,031 30	1,93,11,044 2 0	4,04,701 0 0	2,70,04,475 7 0	2,010,1872	3,723,021	5,733,208
Total for 53½ weeks ...	7,888,287	82,11,205 1 0	19,29,13,577 0	2,01,04,585 2 0	3,22,476 0 0	2,90,28,390 3 0	2,109,3802	3,900,943	6,010,323
COMPARISON.									
Total for corresponding week of previous year ...	331,235	2,91,287 13 1	42,08,401 20	6,34,335 13 5	23,863 15 9	11,47,980 10 8	87,001	159,850	246,851
Per mile of railway corresponding week of previous year ...	—	171 2 7	—	400 1 2	13 2 3	673 5 0	—	—	—
Total for corresponding 53½ weeks of previous year ...	7,422,827	75,38,133 15 8	1,73,87,061 30	1,80,41,157 13 4	3,18,036 7 9	2,50,87,027 6 0	2,107,913	3,800,066	5,907,979

* The increase is in outward traffic.

TARKESSUR BRANCH RAILWAY.

Approximate Return of Traffic for week ended 11th June 1898 on 22.23 miles open.

	COACHING TRAFFIC.		MERCHANDISE AND MINERAL TRAFFIC.		Other earnings (estimated).	Total earnings.	TRAFFIC TRAIN-MILES RUN.		
	Number of passengers.	Coaching receipts.	Weight carried.	Receipts.			Coaching.	Merchandise.	Total.
		Rs. A. P.	Mds. S.	Rs. A. P.	Rs. A. P.	Rs. A. P.			
Total traffic for the week (or per mile of railway ...)	19,290*	4,407 0 0*	12,842 30	514 6 0	12 8 0	4,003 11 0	1,104	51	1,155
For previous 52½ weeks of half-year ...	685,467	1,51,122 14 0	3,65,912 30	14,637 5 0	216 0 0	1,06,178 0 0	24,663	2,462	27,125
Total for 53½ weeks ...	604,757	1,55,530 4 0	3,78,754 0	15,351 7 0	231 0 0	1,71,178 11 0	25,767	2,513	28,280
COMPARISON.									
Total for corresponding week of previous year ...	26,661†	6,944 10 0	18,339 0	780 5 0	12 3 0	7,716 0 0	1,081	107	1,188
Per mile of railway corresponding week of previous year ...	—	312 4 4	—	36 2 5	0 6 10	347 1 7	—	—	—
Total for corresponding 53½ weeks of previous year ...	685,641†	1,40,044 11 0	4,23,231 0	16,479 12 0	189 14 0	1,02,785 5 0	28,733	2,163	30,896

* The decrease is due to "Dashahara" bathing festival in 1897.

BENGAL AND NORTH-WESTERN RAILWAY.

(INCLUDES TIRHUT STATE RAILWAY.)

Approximate Return of Traffic for the week ending 11th June 1898 on 903½ miles open.

	COACHING TRAFFIC.		MERCHANDISE AND MINERAL TRAFFIC.		Other earnings (estimated), including standing-out.	Total earnings.	TRAFFIC TRAIN-MILES RUN.		
	Number of passengers.	Receipts.	Weight carried.	Receipts.			Coaching.	Merchandise.	Total.
		Rs.	Mds.	Rs.	Rs.	Rs.			
Total traffic for the week on 903½ miles open (a) per mile of railway ...	183,845	(a) 22,090 57 73	5,06,750 09 70	(b) 60,000 74 17	17,830 19 77	(a) 1,50,820 161 63	20,734	(c) 24,109	44,843
For previous 52½ weeks of half-year (d) ...	2,750,871	11,37,905	1,18,40,570	10,47,479	3,42,415	21,27,030	424,757	515,203	939,960
Total for 53½ weeks ...	2,934,716	11,60,000	1,23,47,320	17,14,379	3,60,295	23,84,759	445,491	539,312	984,803
COMPARISON.									
Total for corresponding week of previous year on 815 miles open ...	113,513	43,135	9,21,146	69,066	20,635	1,43,020	10,309	(e) 25,511	35,820
Per mile of railway corresponding week of previous year ...	139.03	52.98	705.92	76.14	25.36	154.03	—	—	—
Total for corresponding date of previous year ...	2,697,478	10,90,180	1,30,70,378	14,76,833	4,68,108	20,28,190	363,161	543,138	906,299

* The mileage given here is the average for the week. The Tortipar-Manu-Aamgarh Section, viz., 81.35 miles, was opened from the 24th June 1898.
 (a) Increase due to no special cause.
 (b) Decrease in weight and cost in freight is due to longer load.
 (c) Includes 1,785 miles of ballast trains run on open line.
 (d) Audited figures up to week ending 16th April 1898.
 (e) 1,290 miles of ballast trains run on open line.

EASTERN BENGAL STATE RAILWAY.
(INCLUDING N. B., DACCA, K.-D., AND ASSAM-BENGAL SECTIONS.)

Approximate Return of Traffic and Mileage for the week ended 19th June 1898 on 818 miles open.

	COACHING TRAFFIC.		MERCHANDISE AND MINERAL TRAFFIC.		Other earnings (including ferry).	Total earnings.	TRAFFIC TRAIN-MILES RUN.		
	Number of passengers.	Coaching receipts.	Weight carried.	Receipts.			Coaching.	Merchandise.	Total.
		Rs. A. P.	Mds. S.	Rs. A. P.	Rs. A. P.	Rs. A. P.			
Total traffic for the week ...	178,480	59,980 0 0	798,150 0	1,09,880 0 0	6,360 0 0	1,78,480 0 0	51,200	34,481	85,681
Or per mile of railway ...	218	102 0 0	880 0	190 0 0	0 0 0	220 0 0	...	...	...
For previous 52 weeks of half-year ...	4,799,448	24,54,206 0 0	2,04,77,744 0	38,79,697 0 0	3,63,647 0 0	80,91,789 0 0	770,834	810,572	1,581,406
Total for 24 weeks ...	4,976,828	25,37,326 0 0	2,11,88,394 0	39,78,717 0 0	3,60,967 0 0	82,94,140 0 0	807,334	851,953	1,659,287
COMPARISON.									
Total for corresponding period of previous year ...	168,137	65,880 0 0	6,84,652 0	74,943 0 0	2,084 0 0	1,46,887 0 0	26,913	23,484	50,397
Or per mile of railway corresponding week of previous year ...	199	81 0 0	841 0	93 0 0	4 0 0	177 0 0	...	...	...
Total to corresponding date of previous year ...	4,803,235	24,84,975 0 0	2,03,78,277 0	38,08,890 0 0	3,49,366 0 0	80,43,231 0 0	808,800	811,506	1,620,306

* Audited up to 30th April 1898.
† Excluding steam-boat earnings.

DACCA STATE RAILWAY.

Approximate Return of Traffic and Mileage for the week ended 18th June 1898 on 86 miles open.

	COACHING TRAFFIC.		MERCHANDISE AND MINERAL TRAFFIC.		Other earnings.	Total earnings.	TRAFFIC TRAIN-MILES RUN.		
	Number of passengers.	Coaching receipts.	Weight carried.	Receipts.			Coaching.	Merchandise.	Total.
		Rs. A. P.	Mds. S.	Rs. A. P.	Rs. A. P.	Rs. A. P.			
Total traffic for the week ...	80,919	6,080 0 0	21,870 0	1,840 0 0	140 0 0	8,010 0 0	2,644	1,816	4,460
Or per mile of railway ...	248	81 0 0	254 0	21 0 0	2 0 0	164 0 0	...	...	...
For previous 52 weeks of half-year ...	373,604	1,74,168 0 0	8,41,374 0	91,091 0 0	4,004 0 0	2,59,865 0 0	69,773	42,383	112,156
Total for 24 weeks ...	523,564	1,81,008 0 0	8,63,244 0	92,931 0 0	4,754 0 0	2,68,775 0 0	69,417	44,299	113,716
COMPARISON.									
Total for corresponding week of previous year ...	16,240	3,820 0 0	12,290 0	683 0 0	177 0 0	4,690 0 0	1,949	1,096	3,045
Or per mile of railway corresponding week of previous year ...	188	45 0 0	143 0	8 0 0	2 0 0	55 0 0	...	...	...
Total to corresponding date of previous year ...	409,833	1,50,883 0 0	7,96,101 0	61,337 0 0	4,610 0 0	2,16,829 0 0	61,300	39,825	101,125

* Audited up to 30th April 1898.

ASSAM-BENGAL RAILWAY.

Approximate Return of Traffic for the Week ended 18th June 1898 on 296 miles open.

	COACHING TRAFFIC.		MERCHANDISE AND MINERAL TRAFFIC.		Other earnings (estimated).	Total earnings.	TRAFFIC TRAIN-MILES RUN.		
	Number of passengers.	Coaching receipts.	Weight carried.	Receipts.			Coaching.	Merchandise.	Total.
		Rs. A. P.	Mds. S.	Rs. A. P.	Rs. A. P.	Rs. A. P.			
Total traffic for the week ...	23,147	13,451 0 0	2,23,553 0	9,004 0 0	803 0 0	23,040 0 0	3,170	3,158	6,328
Or per mile of railway ...	80.93	46.80	781.76	34.24	1.04	82.66	11.08	18.03	31.11
For previous 52 weeks of half-year ...	612,194	3,66,003 0 0	51,65,437 0	2,08,023 0 0	14,720 0 0	5,83,803 0 0	71,937	1,107,170	1,179,107
Total for 24 weeks ...	638,235	3,79,424 0 0	54,89,050 0	2,12,928 0 0	15,023 0 0	6,07,443 0 0	74,807	1,112,334	1,187,141
COMPARISON.									
Total for corresponding week of previous year ...	14,008	7,977 0 0	91,484 0	4,747 0 0	795 0 0	12,019 0 0	2,770	2,330	5,100
Or per mile of railway corresponding week of previous year ...	81.81	46.40	676.37	20.85	3.00	81.26	17.42	14.06	31.50
Total to corresponding date of previous year ...	487,630	2,70,046 0 0	42,85,040 0	2,10,085 0 0	12,107 0 0	4,96,168 0 0	68,182	1,111,397	1,179,579

* Includes audited fares for week ending 14th May 1898.

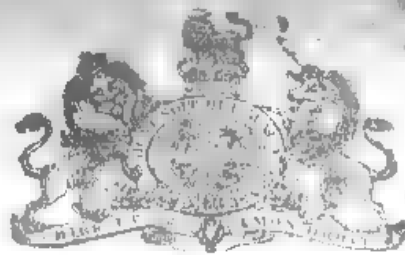
FINANCIAL YEAR.

Approximate Statement of Gross Receipts of the Assam-Bengal Railway.

RECEIPTS FOR WEEK ENDING 19th JUNE 1898.			RECEIPTS FOR WEEK ENDING 19th JUNE 1897.			TOTAL RECEIPTS FROM 1st APRIL 1898 TO 18th JUNE 1898.			TOTAL RECEIPTS FROM 1st APRIL 1897 TO 18th JUNE 1897.			Total increase in 1898.	Total decrease in 1898.
Receipts.	Per mile worked.	Mean mileage worked.	Receipts.	Per mile worked.	Mean mileage worked.	Total receipts.	Per mile worked.	Mean mileage worked.	Total receipts.	Per mile worked.	Mean mileage worked.		
Rs.	Rs.	M.	Rs.	Rs.	M.	Rs.	Rs.	M.	Rs.	Rs.	M.	Rs.	Rs.
23,040	82.66	180	12,913	81.26	286	2,74,743	...	180	2,31,163	...	...	53,643	...

DARJEELING-HIMALAYAN RAILWAY COMPANY, LIMITED.

						Rs.	A.	P.
Approximate earnings for the week ending 18th June 1898	...	...	...	...	...	11,554	0	0
Corresponding period of 1897	...	...	...	...	...	6,567	0	0
Increase	...	...	...	...	...	4,987	0	0
Receipts per mile for the week ending 18th June 1898	...	...	...	...	...	328	8	9
Ditto for the corresponding period of 1897	...	...	...	...	...	128	19	3
Increase	...	...	...	...	...	97	12	6
Receipts from 1st January to 18th June 1898	...	...	...	...	...	3,15,085	0	0
Ditto for the corresponding period of 1897	...	...	...	...	...	3,28,096	0	0
Decrease	...	...	...	...	...	12,110	0	0



APPENDIX TO

The Calcutta Gazette.

WEDNESDAY, JANUARY 3, 1898.

NOTICES TO MARINERS.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 247.

[First Publication.]

EASTERN ARCHIPELAGO—STRAIT OF MAKASSAR.

(1) *Pulo Lavei strait—Rock south-eastward of Suangi island.*

THE British Admiralty has given notice (No. 726 of 1897) of the existence of a rock, which dries at half tide, or about 3 feet, and is about two-tenths of a cable in length east and west, situated with the tree on the south-east end of Suangi island bearing N. 47° W., distant 8 cables; and entrance of Selaru river N. 38° E.

Approximate position, lat. 3° 27' 35" S., long. 116° 1' 40" E.

(2) *Amended particulars of Hercules Reef, Ares Bank, &c.*

Also that—

(a) Hercules reef, in approximately lat. 2° 22½' S., long. 116° 43' E., partly dries at low water.

A rock, with a depth of 16 feet on it, and about a cable in diameter is situated N. 26° E., distant 2¼ cables, from Hercules reef; and there are depths of 3 fathoms in a S.S.W. direction for about 1¼ cables from that reef, in other directions the soundings around Hercules reef are 12 to 19 fathoms.

(b) Ares bank, eastward of Ares or Aru point, is reported to be situated 2 miles westward of the position in which it has hitherto been shown, and a note to that effect has been placed on the chart.

The beacon on this bank is surmounted by a white ball, and situated approximately in lat. 2° 15' 15" S., long. 116° 39' 30" E.

(c) A rocky patch, now named September reef, consisting of sand, coral, and stones dries over a length of about 2 cables in a N. by E. and S. by W. direction, and is about a cable in breadth. It is situated in approximately lat. 2° 17' 10" S., long. 116° 48' 10" E.

A rocky patch, of considerable extent, with a depth of 15 feet on it, is situated with its centre S. 54° W., distant 3¼ cables, from September reef; and there are other patches with depths of 5 to 6 fathoms on them, extending about a mile and a quarter southward, and nearly a mile northward and north-westward from September reef; the general depths around being 11 to 20 fathoms.

(d) A rock which dries, with depths of 4 fathoms around, is situated in approximately lat. 2° 21' 50" S., long. 116° 36' 40" E.; a rock, with a depth of 2 feet on it, in lat. 2° 24' 50" S., long. 116° 35' 0" E.; and a rock, with a depth of 4 feet on it, and depths of 2 fathoms around, in lat. 2° 27' 20" S., long. 116° 34' 5" E.

(Variation 2° Easterly in 1897.)

B. P. O'BRIEN, *Comdr., R.N.M.,*
Port Officer of Calcutta.

Published for general information.

T. H. CLOWES,
Under-Secretary, Marine Department.

CALCUTTA, the 31st December 1897.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 243.

[First Publication.]

AFRICA, EAST COAST—ZANZIBAR ISLAND.

Ras Nungwe light regularly exhibited.

THE British Admiralty has given notice (No. 727 of 1897) that the light on Ras Nungwe (*revolving every half minute* and other particulars as given at No. 52, List of Lights, part VI., 1897) is now regularly exhibited, and the word "occasional" against the light on the charts; and the remark on page 111 in Light List, part VI., should consequently be expunged.

Approximate position, lat. $5^{\circ} 43' 5''$ S., long. $39^{\circ} 18' 5''$ E.

B. P. CREAGH, Comdr., R.N.M.,
Port Officer of Calcutta.

Published for general information.

T. H. CLOWES,
Under-Secretary, Marine Department.

CALCUTTA, the 31st December 1897.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 249.

[First Publication.]

CHINA, EAST COAST—YANG TSE KIANG ENTRANCE.

Alteration in position of Fairway buoy.

THE British Admiralty has given notice (No. 729 of 1897) that, in consequence of the recent movement of the South-east spit, Tung sha banks, to the south-westward, the fairway buoy (*bell, red and black horizontal stripes*) at the entrance of the South channel of the Yang tse kiang has been moved one mile to the southward, and is now moored with Tung sha light-*vesse*l bearing N. 54° W., or approximately in lat. $31^{\circ} 3' 30''$ N., long. $122^{\circ} 9' 0''$ E.

B. P. CREAGH, Comdr., R.N.M.,
Port Officer of Calcutta.

Published for general information.

T. H. CLOWES,
Under-Secretary, Marine Department.

CALCUTTA, the 31st December 1897.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 250.

[First Publication.]

AUSTRALIA, EAST—NEW CALEDONIA.

Port Burai—Exhibition of lights.

THE British Admiralty has given notice (No. 737 of 1897) that, on 14th February 1897, two leading lights were exhibited at port Burai:—

- (1) The front light is a *fixed red* light, elevated 29 feet above the sea, visible about 10 miles in clear weather and shown between two iron posts, situated on the point at the east side of the northern entrance to Nera (Mero) river, in a position bearing N. 65° E., distant $1\frac{1}{2}$ cables, from Buétaué rock.

Approximate position on Plan No. 1307, lat. $21^{\circ} 36' 45''$ S., long. $165^{\circ} 27' 15''$ E.

- (2) The rear light is a *fixed white* light, elevated 56 feet above the sea, visible about 10 miles in clear weather, and shown between two iron posts, situated N. 18° E., distant 505 feet from the front light.

NOTE.—The above lights in line, bearing N. 18° E., lead in the channel from about 4 miles seaward to the anchorage.

- (3) Also, that a *fixed green* light, elevated 6 feet above the sea, and visible from N. 68° E., through east, to S. 52° E. (over the anchorage), about 4 miles in clear weather, is shown from a shed situated N. 15° E., distant 165 yards, from the point on the northern side of the southern entrance to Nera river.
(Variation 10° Easterly in 1897.)

B. P. CREAGH, Comdr., R.N.M.,
Port Officer of Calcutta.

Published for general information.

T. H. CLOWES,
Under-Secretary, Marine Department.

CALCUTTA, the 31st December 1897.

APPENDIX TO THE CALCUTTA GAZETTE, JANUARY 5, 1898.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 251.

[First Publication.]

CHINA SEA—HAINAN ISLAND.

Shoal S.S.E. of South-west point.

THE British Admiralty has given notice (No. 738 of 1897) of the existence of a shoal of sand, about a mile in extent east and west, with a depth of $4\frac{1}{2}$ fathoms on it, situated in a position with Snake point bearing N.E. by E. $\frac{1}{2}$ E., distant 13 miles; and South-west point N.N.W. $\frac{1}{2}$ W.

Approximate position, lat. $18^{\circ} 17' N.$, long. $108^{\circ} 47\frac{1}{2}' E.$
(Variation 2° Easterly in 1897.)

B. P. CREAGH, Comdr., R.I.M.,

Port Officer of Calcutta.

Published for general information.

T. H. CLOWES,

Under-Secretary, Marine Department.

CALCUTTA, the 31st December 1897.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 252.

[First Publication.]

AFRICA, EAST—SOCOTRA.

Coral patch reported eastward of the Brothers.

THE British Admiralty has given notice (No. 739 of 1897) that information has been received that the Master of the German steam-vessel *Hertha* reports that, on 4th November 1897, when in a position with the centre of Jezirat Darsa bearing W. $\frac{1}{2}$ S.; and the bluff of Ras Kattanahan N.W. $\frac{1}{2}$ W.; or approximately in lat. $12^{\circ} 8' N.$, long. $53^{\circ} 50\frac{1}{2}' E.$, he saw a coral patch, about 100 feet long, with apparently depths of 3 to 4 feet on it.

The symbol for a rock with less than 6 feet water on it, with the words "*Hertha 1897*" written against it, has been placed on the Admiralty Charts in the above position.

(Variation 2° Westerly in 1897.)

B. P. CREAGH, Comdr., R.I.M.,

Port Officer of Calcutta.

Published for general information.

T. H. CLOWES,

Under-Secretary, Marine Department.

CALCUTTA, the 31st December 1897.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 1.

[First Publication.]

BAY OF BENGAL—HOOGHLY RIVER.

Caution.—Portion of a dhow awash.

THE Master of the S.S. *Senator* reports having passed a portion of a dhow awash S. 25° W. true, 350 miles from Eastern Channel light. The wreck is dangerous to shipping.

B. P. CREAGH, Comdr., R.I.M.,

Port Officer of Calcutta.

Published for general information.

T. H. CLOWES,

Under-Secretary, Marine Department.

CALCUTTA, the 3rd January 1898.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 243.

[Second Publication.]

BAY OF BENGAL—BURMA COAST.

Further postponement of the 12-mile light on Spit light-vessel.

WITH reference to Notice to Mariners No. 227, dated the 22nd November last, issued by this office, a telegraphic communication (No. 403 of 1897) has been received from the Port Officer, Rangoon, intimating that the exhibition of the 12-mile light on board the Spit light-vessel, Rangoon river, has been further postponed to 20th January next.

B. P. CREAGH, Comdr., R.I.M.,

Port Officer of Calcutta.

Published for general information.

T. H. CLOWES,

Under-Secretary, Marine Department.

CALCUTTA, the 27th December 1897.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 244.

[Second Publication.]

BAY OF BENGAL—BURMA COAST.

Temporary relieving of Baragua flats light-vessel postponed.

With reference to Notice to Mariners No. 238, dated the 14th instant, issued by this office, a telegraphic communication (No. 405 of 1897) has been received from the Port Officer, Rangoon, intimating that the temporary relieving of the Baragua flats light-vessel has been postponed to the end of January next.

B. P. CREAGH, *Comdr., R.I.M.,*
Port Officer of Calcutta.

Published for general information.

CALCUTTA, the 27th December 1897.

T. H. CLOWES,
Under-Secretary, Marine Department.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 245.

[Second Publication.]

EASTERN ARCHIPELAGO—MAKASAR STRAIT.

Pulo Laut strait—Buoys and beacons placed, rock found.

The British Admiralty has given notice (No. 716 of 1897) that the undermentioned buoys and beacons have been placed in Pulo Laut strait:—

1. A conical buoy, No. 1, painted black and marked *S.L.*, moored in a depth of 4 fathoms at low water springs, at the south end of Keramat bank, in a position with tree on south-east part of Suangi island bearing N. 12° E., distant $6\frac{1}{4}$ miles; and mount Jambangan (1021) S. 76° E.

Approximate position, lat. 3° 33' 40" S., long. 115° 59' 30" E.

2. A conical buoy, No. 2, painted black and marked *S.L.*, moored in a depth of 4 fathoms at low water springs, at the north end of Keramat bank, in a position with tree on Suangi island bearing N. 10° E., distant $3\frac{1}{2}$ miles; and centre of Sulimo N. 87° E.
3. A conical buoy, No. 3, painted black and marked *S.L.*, moored in a depth of 22 feet at low water springs, southward of Pampakan island, in a position with tree on Suangi bearing S. 26° W., distant $3\frac{1}{2}$ miles; and centre of islet eastward of Burung island N. 67° W.
4. A white beacon, surmounted by a ball, on the northern side of the rock which dries, a mile north-north-west of Selukutan, in a position with tree on Suangi bearing S. 31° W., distant $5\frac{1}{2}$ miles; and north point of Pampakan island N. 48° W.
5. A black beacon, surmounted by a triangle, in a depth of one foot at low water springs at the south end of Gusong Payung, in a position with the southern rock on that shoal bearing N. 35° E., distant 6 cables; and north point of Pampakan N. 87° W.
6. A black beacon, surmounted by a triangle, at the north end of Gusong Payung, in a position with the southern rock of that shoal bearing S. 20° W., distant $1\frac{1}{2}$ miles; and islet at mouth of Dua river S. 77° W.

Also, of the existence of a rock, with a depth of 9 feet on it at low water, on the east side of Suangi island, in a position with the tree on that island bearing S. 43° W., distant one mile; and northern point of islet eastward of Suangi N. 60° W.

(Variation 2° Easterly in 1897.)

B. P. CREAGH, *Comdr., R.I.M.,*
Port Officer of Calcutta.

Published for general information.

CALCUTTA, the 27th December 1897.

T. H. CLOWES,
Under-Secretary, Marine Department.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 246.

[Second Publication.]

INDIA, WEST COAST—GULF OF KUTCH.

Light on Rajhi (Rox) re-exhibited.

With reference to Notice to Mariners No. 206, dated 28th October last, issued by this office, the British Admiralty has given further notice (No. 719 of 1897) that on 1st October

1897, Rojhi (Rozi) light (*fixed white*, and other particulars presumed to be as given in List of Lights, part VI., 1897, No. 94) was re-exhibited.

Approximate position, lat. $22^{\circ} 32' 45''$ N., long. $70^{\circ} 1' 30''$ E.

B. P. CREAGH, *Comdr., R.I.M.*,
Port Officer of Calcutta.

Published for general information.

CALCUTTA, the 27th December 1897.

T. H. CLOWES,
Under-Secretary, Marine Department.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 238.

[Third Publication.]

BAY OF BENGAL—BURMA COAST.

Baragua flats light-vessel temporarily relieved.

THE Port Officer, Rangoon, has given notice, by telegraphic communication No. 389 dated 8th December 1897, that Baragua flats light-vessel will be temporarily relieved about the 5th January next. There will be no change in the character of the light, but the relieving light-vessel will have three masts.

B. P. CREAGH, *Comdr., R.I.M.*,
Port Officer of Calcutta.

Published for general information.

CALCUTTA, the 14th December 1897.

T. H. CLOWES,
Under-Secretary, Marine Department.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 239.

[Third Publication.]

CHINA, EAST COAST—YUNG RIVER.

Obstructions at entrance removed.

WITH reference to Notice to Mariners No. 207, dated the 29th October 1895, issued by this office, the British Admiralty has given further notice (No. 700 of 1897) that information has been received from Lieutenant and Commander C. J. T. Dormer, R.M.S. *Pigmy*, that the Harbour Master at Ningpo has given notice that:—The barrier of piles and sunken junks at the entrance of Yung river having been completely removed, the whole channel is now open to navigation. The two buoys which marked the fairway have accordingly been withdrawn.

Approximate position, entrance of Yung river, lat. $29^{\circ} 58'$ N., long. $121^{\circ} 43\frac{1}{2}'$ E.

B. P. CREAGH, *Comdr., R.I.M.*,
Port Officer of Calcutta.

Published for general information.

CALCUTTA, the 17th December 1897.

T. H. CLOWES,
Under-Secretary, Marine Department.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 240.

[Third Publication.]

CHINA, EAST COAST—SULU (MINDORO) SEA.

Sunken rock south-eastward of south end of Palawan.

THE British Admiralty has given notice (No. 701 of 1897) that the Master of the steam-vessel *Moyune* reports having struck on a rock, with a depth of about 26 feet on it, situated approximately in lat. $8^{\circ} 6' 0''$ N., long. $118^{\circ} 6' 30''$ E.

The symbol for a rock with less than 6 feet water on it, with "*Moyune 1897*" written against it, has been placed on the Charts in the above position.

B. P. CREAGH, *Comdr., R.I.M.*,
Port Officer of Calcutta.

Published for general information.

CALCUTTA, the 17th December 1897.

T. H. CLOWES,
Under-Secretary, Marine Department.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 241.

[Third Publication.]

CHINA.

Typhoon and Storm warnings.

Notice to Mariners No. 704 of 1897, issued by the British Admiralty, is republished:—

The Chinese Government has given Notice, dated 15th July 1897, that the undermentioned signals of the International Code will be shown, as typhoon and storm warnings, at the semaphores of the ports receiving telegraphic warnings of typhoons or storms, on and after 1st January 1898:—

The letter *V* added to a typhoon signal signifies that the centre is in the immediate vicinity of the place indicated by the Code:—

Typhoons.		Signification.
Number of Signal.		
10	...	Typhoon to S.E. of Luzon.
11	...	to S. "
12	...	to S.W. "
13	...	to E. "
14	...	over central Luzon.
15	...	to W. of Luzon.
16	...	to N.E. "
17	...	to N. "
18	...	to N.W. "
19	...	over northern Luzon.
20	...	to S.E. of the Paracels.
21	...	to S. " "
22	...	to S.W. " "
23	...	to E. " "
24	...	over centre of the Paracels.
25	...	to W. " "
26	...	to N.E. " "
27	...	to N. " "
28	...	to N.W. " "
29	...	in the gulf of Tong King.
30	...	to S.E. of Hongkong.
31	...	to S. "
32	...	to S.W. "
33	...	to E. "
34	...	near " "
35	...	to W. " "
36	...	to N.E. " "
37	...	to N. " "
38	...	to N.W. " "
39	...	to S. of Formosa.
40	...	to S.W. "
41	...	to E. "
42	...	over central Formosa.
43	...	in the central part of Formosa channel.
44	...	to the North of Formosa channel.
45	...	on land near Swatow.
46	...	on land near Amoy.
47	...	" Fuchau.
48	...	to N.E. of Formosa.
49	...	to N. "
50	...	to North of Formosa channel.
51	...	to S.E. of the Liu Kiu islands.
52	...	to E. " " "
53	...	over the centre of the Liu Kiu islands.
54	...	to W. of the Liu Kiu islands.
55	...	to S. of Japan.
56	...	to S. of Van Diemen strait.
57	...	over the S.W. of Japan.
58	...	S.E. of Ningpo.
59	...	to S. "
60	...	to S.W. "
61	...	to E. "
62	...	to W. "

Typhoons—conold.

Number of Signal.	Signification.
63	... Typhoon to S.E. of Shanghai.
64	... " to S. "
65	... " to S.W. "
66	... " to E. "
67	... " near Shanghai.
68	... " to W. of "
69	... " to N.E. "
70	... " to N. "
71	... " to N.W. "
72	... " or depression to E. of Shantung.
73	... " over "
74	... " to W. "
75	... " to N.E. "
76	... " to N. "
77	... " to N.W. "
78	... " over Korea. "
79	... " " Manchuria "
80	... " " Mongolia. "
81	... " " Siberia. "
82	... " " Central China. "
83	... " " Western China. "
84	... " in the valley of the Yang tse kiang. "
85	... " in the Yellow sea. "
86	... " over the S.W. of Japan. "
87	... " to the S. of the sea of Japan. "
88	... " " N. " "
89	... " traversing Japan. "
90	... " tends to fill up. "
91	... " is going North. "
92	... " " N.E. "
93	... " " E. "
94	... " " S.E. "
95	... " " S. "
96	... " " S.W. "
97	... " " W. "
98	... " " N.W. "
99	... " is stationary. "
00	... " direction unknown. "

Storm or Gale warnings.

Storms or gales will be signalled by the letter *G*, followed by two figures and one or several letters, according to the undermentioned arrangement:—

The figures indicate the directions from which the gale is expected:—

02 stands for N.N.E.	18 stands for S.S.W.
04 " N.E.	20 " S.W.
06 " E.N.E.	22 " W.S.W.
08 " E.	24 " W.
10 " E.S.E.	26 " W.N.
12 " S.E.	28 " N.W.
14 " S.S.E.	30 " N.N.W.
16 " S.	32 " N.

The letters indicate approximately the places threatened with a gale:—

G stands for Shantung and north coast of China.
M " the estuary of the Yang tse kiang, the Chusans, &c.
F " the Formosa channel.
D " the neighbourhood of the Liu Kiu islands.
Q " the south coast of China and the China sea.
K " Kiusiu and the S.W. coasts of Japan.
W " the sea of Japan, Korea, and the west coast of Japan.
N " the coasts south of Newchwang and the gulf of Pe chi li.
T " the coasts of Japan bordering the Pacific ocean.

This Notice affects the China Sea Directory, vol. III, 1894, page 17.

B. P. ORRISON, *Comdr., R.N.M.*,
Port Officer of Calcutta.

Published for general information.

T. H. CLOWES.

Under-Secretary, Marine Department.

CALCUTTA, the 17th December 1897.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 242.

[Third Publication.]

JAPAN—TSUGARU STRAIT.

Okata bay—Rocky bank west-south-west of Shiriya saki.

THE British Admiralty has given notice (No. 708 of 1897) that a sounding of $6\frac{1}{2}$ fathoms, hard bottom (but there may be less water), with deep water close to, was obtained in a position with Shiriya saki lighthouse bearing N. 68° E., distant $6\frac{1}{2}$ miles; and Red cliff N. 58° W.

Approximate position, lat. $41^{\circ} 23' 0''$ N., long. $141^{\circ} 20' 10''$ E.

The words "probably less water" have been written against the $6\frac{1}{2}$ fathoms which has been placed in the above position on the Admiralty Chart.

(Variation 5° Westerly in 1897.)

B. P. OREACH, R.I.M.,

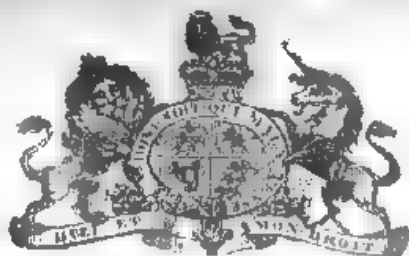
Port Officer of Calcutta.

Published for general information.

T. H. CLOWES,

CALCUTTA, the 17th December 1897.

Under-Secretary, Marine Department.



APPENDIX TO

The Calcutta Gazette.

WEDNESDAY, JANUARY 12, 1898.

NOTICES TO MARINERS.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 2.

[First Publication.]

NEW ZEALAND—NORTH ISLAND.

Sunken wreck north-westward of Table cape.

THE British Admiralty has given notice (No. 744 of 1897) that the wreck of the steam-vessel *Tasmania* lies sunk in a depth of 15 fathoms, with the mastheads just below the surface of the water, in a position with the north-east extreme of Table cape bearing S. E. $\frac{1}{2}$ S., distant about $3\frac{1}{2}$ miles; and point on northern side of entrance to Horaka river S. W. by W. $\frac{1}{2}$ W.

Approximate position, lat. $39^{\circ} 2' 40''$ S., long. $177^{\circ} 59' 50''$ E.

A marked buoy has been moored to each mast of the wreck, but they should not be relied upon, and vessels should give the vicinity of the wreck a good berth in passing.

(Variation 14° Easterly in 1897.)

B. P. OREAGH, Comdr., R.N.M.,
Port Officer of Calcutta.

Published for general information.

CALCUTTA, the 8th January 1898.

T. H. CLOWES,
Under-Secretary, Marine Department.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 3.

[First Publication.]

NEW ZEALAND—COOK STRAIT.

North island—Exhibition of cape Palliser light.

With reference to Notice to Mariners No. 182, dated 18th September 1897, issued by this office, the British Admiralty has given further notice (No. 747 of 1897) that on 7th October 1897, cape Palliser light would be exhibited.

Cape Palliser (Rocky point) light is a second order, dioptric, group flashing white light with a period of thirty seconds; showing two flashes, separated by an interval of three seconds, in each group.

It is elevated 238 feet above high water, and visible seaward, over an arc of 214° (or from about E. $\frac{1}{2}$ N., through north and west, to S. W. $\frac{1}{2}$ W.), a distance of 23 miles in clear weather.

The lighthouse, an iron tower, painted white, on a concrete base, is 58 feet high, and 640 feet from high water mark, at an elevation of 210 feet above the sea.

Approximate position, lat. $41^{\circ} 38' 45''$ S., long. $175^{\circ} 18' 45''$ E.

CAUTION.—As the light is visible over Black rocks and part of the point to the northward of them, vessels should not approach within 5 miles of the lighthouse, until the vicinity of those rocks is passed.

B. P. OREAGH, Comdr., R.N.M.,
Port Officer of Calcutta.

Published for general information.

CALCUTTA, the 8th January 1898.

T. H. CLOWES,
Under-Secretary, Marine Department.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 4.

[First Publication].

INDIA, WEST—SIND COAST.

Karachi harbour—Buoy marking southern limit of port.

THE British Admiralty has given notice (No. 762 of 1898) that a conical buoy, painted red, has been moored in a depth of 20 feet at low water spring tides, in a position with the extremity of Manora point breakwater bearing West, distant $3\frac{1}{2}$ cables, to mark the southern limit of the port of Karachi.

This buoy will be withdrawn during the South-west monsoon.

Approximate position, lat. $24^{\circ} 47' 5''$ N., long. $66^{\circ} 59' 15''$ E.

(Variation 1° Easterly in 1897).

B. P. O'NEAGH, Comdr., R.N.M.,
Port Officer of Calcutta.

Published for general information.

T. H. CLOWES,
Under-Secretary, Marine Department.

CALCUTTA, the 8th January 1898

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 247.

[Second Publication]

EASTERN ARCHIPELAGO—STRAIT OF MAKASSAR.

(1) *Pulo Laut strait—Rock south-eastward of Suangi island.*

THE British Admiralty has given notice (No. 726 of 1897) of the existence of a rock, which dries at half tide, or about 3 feet, and is about two-tenths of a cable in length east and west, situated with the tree on the south-east end of Suangi island bearing N. 47° W., distant $\frac{1}{2}$ cables; and entrance of Selaru river N. 38° E.

Approximate position, lat. $3^{\circ} 27' 35''$ S., long. $116^{\circ} 1' 40''$ E.

(2) *Amended particulars of Hercules Reef, Ares Bank, &c.*

Also that—

- (a) Hercules reef, in approximately lat. $2^{\circ} 22\frac{1}{2}'$ S., long. $116^{\circ} 43'$ E., partly dries ■ low water.

A rock, with a depth of 16 feet on it, and about a cable in diameter is situated N. 20° E., distant $2\frac{1}{2}$ cables, from Hercules reef; and there are depths of 8 fathoms in a S.S.W. direction for about $1\frac{1}{2}$ cables from that reef, in other directions the soundings around Hercules reef are 12 to 10 fathoms.

- (b) Ares bank, eastward of Ares or Aru point, is reported to be situated 2 miles westward of the position in which it has hitherto been shown, and a note to that effect has been placed on the chart.

The beacon on this bank is surmounted by ■ white ball, and situated approximately in lat. $2^{\circ} 15' 15''$ S., long. $116^{\circ} 39' 30''$ E.

- (c) A rocky patch, now named September reef, consisting of sand, coral, and stones dries over a length of about 2 cables in a N. by E. and S. by W. direction, and is about a cable in breadth. It is situated in approximately lat. $2^{\circ} 17' 10''$ S., long. $116^{\circ} 48' 10''$ E.

A rocky patch, of considerable extent, with a depth of 15 feet on it, is situated with its centre S. 54° W., distant $3\frac{1}{2}$ cables, from September reef; and there are other patches with depths of 5 to 6 fathoms on them, extending about a mile and a quarter southward, and nearly a mile northward and north-westward from September reef; the general depths around being 11 to 20 fathoms.

- (d) A rock which dries, with depths of 4 fathoms around, is situated in approximately lat. $2^{\circ} 21' 50''$ S., long. $116^{\circ} 36' 40''$ E.; a rock, with a depth of 2 feet on it, in lat. $2^{\circ} 24' 50''$ S., long. $116^{\circ} 35' 0''$ E.; and a rock, with a depth of 4 feet on it, and depths of 2 fathoms around, in lat. $2^{\circ} 27' 20''$ S., long. $116^{\circ} 34' 5''$ E.

(Variation 2° Easterly in 1897.)

B. P. O'NEAGH, Comdr., R.N.M.,
Port Officer of Calcutta.

Published for general information.

T. H. CLOWES,
Under-Secretary, Marine Department.

CALCUTTA, the 31st December 1897.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 243.

[Second Publication.]

AFRICA, EAST COAST—ZANZIBAR ISLAND.

Ras Nungwe light regularly exhibited.

THE British Admiralty has given notice (No. 727 of 1897) that the light on Ras Nungwe (*revolving every half minute* and other particulars as given at No. 52, List of Lights, part VI., 1897) is now regularly exhibited, and the word "occasional" against the light on the charts; and the remark on page 19 in Light List, part VI., should consequently be expunged.

Approximate position, lat. $5^{\circ} 43' 5''$ S., long. $39^{\circ} 18' 5''$ E.

B. P. CREAGH, Comdr., R.I.M.,
Port Officer of Calcutta.

Published for general information.

T. H. CLOWES,
Under-Secretary, Marine Department.

CALCUTTA, the 31st December 1897.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 249.

[Second Publication.]

CHINA, EAST COAST—YANG TSE KIANG ENTRANCE.

Alteration in position of Fairway buoy

THE British Admiralty has given notice (No. 729 of 1897) that, in consequence of the recent movement of the South-east spit, Tung sha banks, to the south-westward, the fairway buoy (*bell, red and black horizontal stripes*) at the entrance of the South channel of the Yang tse kiang has been moved one mile to the southward, and is now moored with Tung sha light-vessel bearing N. 54° W., or approximately in lat. $31^{\circ} 3' 30''$ N., long. $122^{\circ} 9' 0''$ E.

B. P. CREAGH, Comdr., R.I.M.,
Port Officer of Calcutta.

Published for general information.

T. H. CLOWES,
Under-Secretary, Marine Department.

CALCUTTA, the 31st December 1897.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 260.

[Second Publication.]

AUSTRALIA, EAST—NEW CALEDONIA.

Port Burai—Exhibition of lights.

THE British Admiralty has given notice (No. 737 of 1897) that, on 14th February 1897, two leading lights were exhibited at port Burai:—

- (1) The front light is a *fixed red* light, elevated 20 feet above the sea, visible about 10 miles in clear weather and shown between two iron posts, situated on the point at the east side of the northern entrance to Nera (Mero) river, in a position bearing N. 68° E., distant $1\frac{1}{2}$ cables, from Buétaué rock.

Approximate position on Plan No. 1307, lat. $21^{\circ} 36' 45''$ S., long. $165^{\circ} 27' 15''$ E.

- (2) The rear light is a *fixed white* light, elevated 56 feet above the sea, visible about 10 miles in clear weather, and shown between two iron posts, situated N. 18° E., distant 505 feet from the front light.

NOTE.—The above lights in line, bearing N. 18° E., lead in the channel from about 4 miles seaward to the anchorage.

- (3) Also, that a *fixed green* light, elevated 6 feet above the sea, and visible from N. 68° E., through east, to S. 52° E. (over the anchorage), about 4 miles in clear weather, is shown from a shed situated N. 15° E., distant 165 yards, from the point on the northern side of the southern entrance to Nera river.

(Variation 10° Easterly in 1897.)

B. P. CREAGH, Comdr., R.I.M.,
Port Officer of Calcutta.

Published for general information.

T. H. CLOWES,
Under-Secretary, Marine Department.

CALCUTTA, the 31st December 1897.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 251.

[Second Publication.]

CHINA SEA—HAINAN ISLAND.

Shoal S.S.E. of South-west point.

THE British Admiralty has given notice (No. 788 of 1897) of the existence of a shoal of sand, about a mile in extent east and west, with a depth of $4\frac{1}{2}$ fathoms on it, situated in a position with Snake point bearing N.E. by E. $\frac{1}{2}$ E., distant 13 miles; and South-west point N.N.W. $\frac{1}{2}$ W.

Approximate position, lat. $18^{\circ} 17' N.$, long. $108^{\circ} 47\frac{1}{2}' E.$ (Variation 2° Easterly in 1897.)B. P. CREAGH, Comdr., R.I.M.,
Port Officer of Calcutta.

Published for general information.

T. H. CLOWES,
Under-Secretary, Marine Department.

CALCUTTA, the 31st December 1897.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 252.

[Second Publication.]

AFRICA, EAST—SOCOTRA.

Coral patch reported eastward of the Brothers.

THE British Admiralty has given notice (No. 789 of 1897) that information has been received that the Master of the German steam-vessel *Hertha* reports that, on 4th November 1897, when in a position with the centre of Jezirat Darsa bearing W. $\frac{1}{2}$ S.; and the bluff of Ras Kattanahan N.W. $\frac{3}{4}$ W.; or approximately in lat. $12^{\circ} 8' N.$, long. $53^{\circ} 50\frac{1}{2}' E.$, he saw a coral patch, about 100 feet long, with apparently depths of 3 to 4 feet on it.

The symbol for a rock with less than 6 feet water on it, with the words "*Hertha 1897*" written against it, has been placed on the Admiralty Charts in the above position.

(Variation 2° Westerly in 1897.)B. P. CREAGH, Comdr., R.I.M.,
Port Officer of Calcutta.

Published for general information.

T. H. CLOWES,
Under-Secretary, Marine Department.

CALCUTTA, the 31st December 1897.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 1.

[Second Publication.]

BAY OF BENGAL—HOOGHLY RIVER.

Caution.—Portion of a dhow awash.

THE Master of the S.S. *Senator* reports having passed a portion of a dhow awash S. 25° W. true, 350 miles from Eastern Channel light. The wreck is dangerous to shipping.

B. P. CREAGH, Comdr., R.I.M.,
Port Officer of Calcutta.

Published for general information.

T. H. CLOWES,
Under-Secretary, Marine Department.

CALCUTTA, the 3rd January 1898.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 243.

[Third Publication.]

BAY OF BENGAL—BURMA COAST.

Further postponement of the 12-mile light on Spit light-vessel.

WITH reference to Notice to Mariners No. 227, dated the 22nd November last, issued by this office, a telegraphic communication (No. 403 of 1897) has been received from the Port Officer, Rangoon, intimating that the exhibition of the 12-mile light on board the Spit light-vessel, Rangoon river, has been further postponed to 20th January next.

B. P. CREAGH, Comdr., R.I.M.,
Port Officer of Calcutta.

Published for general information.

T. H. CLOWES,
Under-Secretary, Marine Department.

CALCUTTA, the 27th December 1897.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 244.

[Third Publication.]

BAY OF BENGAL—BURMA COAST.

Temporary relieving of Baragua, flat light-vessel postponed.

With reference to Notice to Mariners No. 238, dated the 14th instant, issued by this office, a telegraphic communication (No. 405 of 1897) has been received from the Port Officer, Rangoon, intimating that the temporary relieving of the Baragua, flat light-vessel has been postponed to the end of January next.

B. P. OREACH, Comdr., R.N.M.,
Port Officer of Calcutta.

Published for general information.

T. H. CLOWES,
Under-Secretary, Marine Department.

CALCUTTA, the 27th December 1897.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 245.

[Third Publication.]

EASTERN ARCHIPELAGO—MALAKKA STRAIT.

Pulo Laut strait—Buoys and beacons placed, rock found.

The British Admiralty has given notice (No. 716 of 1897) that the undermentioned buoys and beacons have been placed in Pulo Laut strait:—

1. A conical buoy, No. 1, painted black and marked S.L., moored in a depth of 4 fathoms at low water springs, at the south end of Keramat bank, in a position with tree on south-east part of Suangi island bearing N. 13° E., distant $6\frac{1}{2}$ miles; and mount Jambangan (1621) S. 76° E.
Approximate position, lat. 3° 33' 40" S., long. 115° 59' 30" E.
2. A conical buoy, No. 2, painted black and marked S.L., moored in a depth of 4 fathoms at low water springs, at the north end of Keramat bank, in a position with tree on Suangi island bearing N. 10° E., distant $3\frac{1}{2}$ miles; and centre of Salino N. 87° E.
3. A conical buoy, No. 3, painted black and marked S.L., moored in a depth of 22 feet at low water springs, southward of Pampakan island, in a position with tree on Suangi bearing S. 26° W., distant $3\frac{1}{2}$ miles; and centre of islet eastward of Burung island N. 67° W.
4. A white beacon, surmounted by a ball, on the northern side of the rock which dries, a mile north-north-west of Selukutan, in a position with tree on Suangi bearing S. 31° W., distant $5\frac{1}{2}$ miles; and north point of Pampakan island N. 48° W.
5. A black beacon, surmounted by a triangle, in a depth of one foot at low water springs at the south end of Gusong Payung, in a position with the southern rock on that shoal bearing N. 35° E., distant 6 cables; and north point of Pampukan N. 87° W.
6. A black beacon, surmounted by a triangle, at the north end of Gusong Payung, in a position with the southern rock of that shoal bearing S. 20° W., distant $1\frac{1}{2}$ miles; and islet at mouth of Dua river S. 77° W.

Also, of the existence of a rock, with a depth of 9 feet on it at low water, on the east side of Suangi island, in a position with the tree on that island bearing S. 48° W., distant one mile; and northern point of islet eastward of Suangi N. 60° W.

(Variation 2° Easterly in 1897.)

B. P. OREACH, Comdr., R.N.M.,
Port Officer of Calcutta.

Published for general information.

T. H. CLOWES,
Under-Secretary, Marine Department.

CALCUTTA, the 27th December 1897.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 246.

[Third Publication.]

INDIA, WEST COAST—GULF OF KUTCH.

Light on Rojhi (Rozi) re-exhibited.

WITH reference to Notice to Mariners No. 206, dated 28th October last, issued by this office, the British Admiralty has given further notice (No. 719 of 1897) that on 1st October 1897, Rojhi (Rozi) light (*fixed white*, and other particulars presumed to be as given in List of Lights, part VI., 1897, No. 94) was re-exhibited.

Approximate position, lat. $22^{\circ} 32' 45''$ N., long. $70^{\circ} 1' 30''$ E.

B. P. CREAGH, Comdr., R.N.M.,

Port Officer of Calcutta.

Published for general information.

T. H. CLOWES,

Under-Secretary, Marine Department.

Calcutta, the 27th December 1897.



APPENDIX TO
The Calcutta Gazette.

WEDNESDAY, JANUARY 19, 1898.

NOTICES TO MARINERS.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 5.

[First Publication.]

BAY OF BENGAL—CHITTAGONG COAST.

Chittagong River.—Depth of water found in the channels.

THE Port Officer, Chittagong, has given notice that the following depth of water was found in the river channels by soundings taken on the 8th January, and reduced to zero :—

	Ft.	IN.
<i>Track No. 1.—Outer bar—</i>		
Disc in the centre of Diamond and the Tripod cask and ball ...	11	3
Disc on Tripod cask and ball ...	10	0
<i>Track No. 2.—Inner bar—</i>		
Disc on Diamond ...	11	0
Disc on Tripod, cask and ball ...	10	0
<i>Track No. 3—</i>		
Tripod on cross and ball ...	19	0
<i>Track No. 4—</i>		
Triangle, Tripod, cask and ball ...	20	0
<i>Track No. 5.—Guptakhally crossing—</i>		
Old marks ...	16	0
Centre ...	■	0
Tripod on Diamond ...	16	0

B. P. CREAGH, Comdr., R.I.M.,
Port Officer of Calcutta

Published for general information.

T. H. CLOWES,
Under-Secretary, Marine Department.

CALCUTTA, 14th January 1898.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 6.

[First Publication.]

BAY OF BENGAL—BURMA COAST.

Gulf of Martaban.—Intended light on Amherst point, entrance to Moulmein river.

THE British Admiralty has given notice (No. 768 of 1898) that, on 1st April 1898, a light will be exhibited from the Pilot station, Amherst point.

Amherst point light will be a sixth order, dioptric, fixed red light, elevated 68 feet above high water, and visible from N.N.E., through east, to S.E., a distance of about 8 miles in clear weather.

Approximate position, lat. $16^{\circ} 4' 45''$ N., long. $97^{\circ} 53' 5''$ E.
(Variation 5° Easterly in 1897.)

B. P. CREAGH, Comdr., R.I.M.,
Port Officer of Calcutta.

Published for general information.

T. H. CLOWES,
Under-Secretary, Marine Department.

CALCUTTA, 14th January 1898.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 7.

[First Publication.]

CHINA, EAST—PE CHI LI STRAIT.

Port Arthur—Alteration in light.

THE British Admiralty has given notice (No. 770 of 1897) that, on 20th October 1897, the light shown on the western side of the entrance to port Arthur was altered from fixed white to a sixth order, dioptric, group occulting light, with a period of twenty seconds, thus:—light, fourteen seconds; eclipse, two seconds; light, two seconds; eclipse, two seconds.

It shows the following sectors:—red, from N. 13° E. to the land to the westward; white, from N. 13° E., through north, to N. 55° W.; red, from N. 55° W. to N. 81° W.; and white, from N. 81° W., through west, to S. 40° W.; is elevated 87 feet above the sea, and in clear weather the white light should be visible 8 miles and the red light 5 miles.

The light is shown from a building, 7 feet high, painted white, and situated close to the south-east side of the old light-house, which is painted black and white in horizontal bands. The keeper's dwelling and boundary wall are painted white.

Approximate position, lat. 38° 47' 25" N., long. 121° 15' 35" E.

(Variation 4° Westerly in 1897.)

B. P. CRESSER, Comdr., R.N.M.,
Port Officer of Calcutta.

Published for general information.

T. H. CLOWES,
Under-Secretary, Marine Department.

CALCUTTA, 14th January 1898.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 8.

[First Publication.]

AUSTRALIA—INNER ROUTE.

Shoals south-eastward of Night island.

NOTICE to Mariners No. 772 of 1897, issued by the British Admiralty, is republished.

The following information, relating to the existence of shoals near Lowrie island, has been received from Lieutenant R. W. Glennie, H.M. Surveying Vessel *Dart*:—

- (1) A coral shoal (Parry rock) of very small extent, with a least depth of 5½ fathoms on it at low water springs and 9 to 10 fathoms, mud bottom, close around, situated on the "course recommended," in a position with centre of Lowrie island (No. VIII) bearing S. 47° W., distant nearly 2½ miles; and Bow reef beacon (as shown on Chart No. 2921) S. 45° E.

Approximate position, lat. 13° 15' 6" S., long. 143° 36' 45" E.

- (2) A coral patch of small extent, with a depth of 8 fathoms on it and 10 to 11 fathoms, mud bottom, close around, in a position bearing N. 67° E., distant 5½ cables, from shoal (1), or approximately in lat. 13° 14' 55" S., long. 143° 37' 20" E.

- (3) A coral shoal (Howard rock) of very small extent, with a least depth of 4½ fathoms on it at low water springs and 9 fathoms, mud bottom, close around, situated on the western side of the fairway, in a position with centre of Lowrie island (No. VIII) bearing N. 75° W., distant 19½ cables; and Cape Sidmouth summit (350) S. 9° W.

Approximate position, lat. 13° 17' 5" S., long. 143° 36' 45" E.

NOTE.—That portion of the "course recommended" which passes over the 5½ fathom shoal has been erased from the Chart.

(Variation 5° Easterly in 1897.)

B. P. CRESSER, Comdr., R.N.M.,
Port Officer of Calcutta.

Published for general information.

T. H. CLOWES,
Under-Secretary, Marine Department.

CALCUTTA, 14th January 1898.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 9.

[First Publication.]

PACIFIC OCEAN—SANDWICH ISLANDS.

Soundings on banks to the west-north-west.

The British Admiralty has given notice (No. 774 of 1897) that information has been received that the undermentioned soundings were obtained by the United States vessel-of-war *Yorktown* in October 1897:—

1. FROST BANK:—

Soundings of 63 to 12 fathoms, over a blue ooze, blue mud, fine white sand, and rocky bottom, on this bank (originally reported by the vessel *E. L. Frost* in 1859) between lats. $23^{\circ} 45' N.$ and $23^{\circ} 46' N.$ and longs. $163^{\circ} 33' W.$ and $163^{\circ} 18' W.$ The 12 fathoms is situated approximately in lat. $23^{\circ} 45' N.$, long. $163^{\circ} 25' W.$

2. A sounding of 47 fathoms, rocky bottom, in a position with Modu Mann (Bird island) bearing S.W. by S., distant 11 miles; or approximately in lat. $23^{\circ} 10' N.$, long. $161^{\circ} 47' W.$

(Variation 11° Easterly in 1897.)

B. P. CREAGH, *Comdr., R.N.M.,*
Port Officer of Calcutta.

Published for general information.

T. H. CLOWES,
Under-Secretary, Marine Department.

Calcutta, the 14th January 1898.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 10.

[First Publication.]

CHINA.

Typhoon and storm signals—Codes for signals.

With reference to Notice to Mariners No. 241, dated 17th December 1897, issued by this Office, the British Admiralty has given further notice (No. 777 of 1897) that further information has been received from the Chinese Government that, in making the typhoon and storm warning signals at the semaphores of the several ports, the flags of Marryat's Code will be used for the numbers, and those of the International Code for the letters only.

B. P. CREAGH, *Comdr., R.N.M.,*
Port Officer of Calcutta.

Published for general information.

T. H. CLOWES,
Under-Secretary, Marine Department.

Calcutta, the 14th January 1898.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 11.

[First Publication.]

PACIFIC OCEAN—SANDWICH ISLANDS.

Hawaii—Erection of lights.

The British Admiralty has given notice (No. 779 of 1897) that a *fixed white* light, elevated 60 feet above the sea, and visible 10 miles in clear weather, is shown from a wooden, framework tower, painted white, and situated on Kouhola point, western side of Keeken harbour, north coast of Hawaii.

Approximate position, lat. $20^{\circ} 14' N.$, long. $155^{\circ} 46' W.$

Also, that a *fixed white* light, elevated 65 feet above the sea, and visible 10 miles in clear weather, is shown from a wooden, framework tower, painted white situated at Keawemoe, southward of Alia point, east coast of Hawaii.

Approximate position, lat. $19^{\circ} 51' N.$, long. $155^{\circ} 41' W.$

B. P. CREAGH, *Comdr., R.N.M.,*
Port Officer of Calcutta.

Published for general information.

T. H. CLOWES,
Under-Secretary, Marine Department.

Calcutta, the 14th January 1898.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 12.

[First Publication.]

AUSTRALIA—TORRES STRAIT—INNER ROUTE.

(1) *Passage through the Great Barrier Reef, near the Howick group.*

THE Port Master, Brisbane, has given notice (No. 20 of 1897) that Captain W. Dawson, of H.M.S. *Waterwitch*, reports having sounded out the passage through the Great Barrier Reef, which lies between Stapleton (X) Islet (in lat. $14^{\circ} 19' 12''$ S., long. $144^{\circ} 51' 3''$ E.) and No. 1 sandbank.

The passage, which will be known hereafter as "Waterwitch Passage," is clear of dangers and carries a depth of 14 to 19 fathoms.

Vessels proceeding to sea from the Inner Route should pass between Bewick and Ingham Islands, and, having made Stapleton Island, leave it on the starboard hand $\frac{1}{2}$ mile distant; then steering N. 10° E. (mag.) for 7.4 miles will bring No. 1 sandbank abeam. It is close to the edge of the reef, and should be passed on the starboard hand $\frac{1}{2}$ mile distant. The passage is $1\frac{1}{2}$ miles wide, but the reef on the west side of it should be given a good berth, as it was not sounded off. Heavy tide-rips and strong tidal currents are met with in the passage, but on the sandbank side it is always smooth. The northern edge of the reef west of Stapleton Island bears N. $82\frac{1}{2}^{\circ}$ W. from Stapleton. The channel between the two is 2.2 miles wide, and quite clear of dangers.

Charts affected—2922, 780 and 2964.

Australia Directory, Vol. II, page 348.

(2) *Rock off Haughton Island—Howick group.*

Also, that a Rock, with 18 feet on it at low-water springs, exists westward of Haughton Island. From it the summit of Howick Island bears N. 63° E. (mag.), distant 2.3 miles.

The rock is less than a mile off the recommended track.

Charts affected—2922 and 2764.

Australia Directory, Vol. II, page 347.

H. LINDBQUIST,
for Port Officer of Calcutta.

Published for general information.

T. H. CLOWES,
Under-Secretary, Marine Department.

CALCUTTA, the 17th January 1898.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 13.

[First Publication.]

AUSTRALIA—FRANKLAND ISLANDS.

The islands incorrectly charted.

THE Port Master, Brisbane, has given notice (No. 21 of 1897) that the west extreme of Normanby Island (Frankland Islands) is found to be 2 cables further west than shown on Chart No. 2330.

Australia Directory, Vol. II, page 322.

H. LINDBQUIST,
for Port Officer of Calcutta.

Published for general information.

T. H. CLOWES,
Under-Secretary, Marine Department.

CALCUTTA, the 17th January 1898.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 14.

[First Publication.]

AUSTRALIA—CAIRNS HARBOUR—TRINITY BAY.

Fairway beacon with illuminated gauge.

THE Port Master, Brisbane, has given notice (No. 22 of 1897) that an automatic clock-face tide gauge, illuminated at night, is exhibited from the Fairway Beacon at the outer edge of the bar at Cairns Harbour. The beacon from which False Cape bears S. $79^{\circ} 30'$ E. and the front leading light S. 24° W. is placed in a depth of 15 feet at low-water springs, and is 150 feet from the line of lights and beacons marking the centre of the bar cutting. It is to be left on the port hand when entering.

The tide gauge indicates the height of tide above low-water datum from 1 foot to 11 feet by means of a pointer moving round a clock-face dial looking seaward. The gauge does not indicate below 1 foot nor above 11 feet, the pointer resting at those points, so that 1 foot should be interpreted 1 foot or under and 11 feet as 11 feet and over.

The available depth in the cutting will be obtained by adding 12' 6" to the height shown by the gauge.

The light will be visible in clear weather at a distance of 5 miles, except between the bearings of W. S. W. and S. S. E., between which bearings the direct light is obscured, and the frosted clock-face is only visible.

The old red Fairway Buoy has been removed.

Charts affected—Nos. 2924 and 2350.

Australia Directory, Vol. II, page 237.

H. LINDQUIST,
for Port Officer of Calcutta.

Published for general information.

CALCUTTA, the 17th January 1898.

T. H. CLOWES,
Under-Secretary, Marine Department.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 2.

[Second Publication.]

NEW ZEALAND—NORTH ISLAND.

Sunken wreck north-westward of Table Cape.

THE British Admiralty has given notice (No. 744 of 1897) that the wreck of the steam-vessel *Tasmania* lies sunk in a depth of 15 fathoms, with the mastheads just below the surface of the water, in a position with the north-east extreme of Table Cape bearing S. E. $\frac{1}{2}$ S., distant about $3\frac{1}{2}$ miles; and point on northern side of entrance to Moraka river S. W. by W. $\frac{1}{2}$ W.

Approximate position, lat. $39^{\circ} 2' 40''$ S., long. $177^{\circ} 59' 50''$ E.

A marked buoy has been moored to each mast of the wreck, but they should not be relied upon, and vessels should give the vicinity of the wreck a good berth in passing.

(Variation 14° Easterly in 1897.)

B. P. OREAGH, Comdr., R.N.M.,
Port Officer of Calcutta.

Published for general information.

CALCUTTA, the 8th January 1898.

T. H. CLOWES,
Under-Secretary, Marine Department.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 3.

[Second Publication.]

NEW ZEALAND—COOK STRAIT.

North island—Exhibition of Cape Palliser light.

WITH reference to Notice to Mariners No. 182, dated 18th September 1897, issued by this office, the British Admiralty has given further notice (No. 747 of 1897) that on 7th October 1897, Cape Palliser light would be exhibited.

Cape Palliser (Rocky point) light is a second order, dioptric, group flashing white light with a period of thirty seconds; showing two flashes, separated by an interval of three seconds, in each group.

It is elevated 258 feet above high water, and visible seaward, over an arc of 214° (or from about E. $\frac{1}{2}$ N., through north and west, to S. W. $\frac{1}{2}$ W.), a distance of 23 miles in clear weather.

The lighthouse, an iron tower, painted white, on a concrete base, is 58 feet high, and 640 feet from high water mark, at an elevation of 210 feet above the sea.

Approximate position, lat. $41^{\circ} 36' 45''$ S., long. $175^{\circ} 18' 45''$ E.

CAUTION.—As the light is visible over Black rocks and part of the point to the northward of them, vessels should not approach within 5 miles of the lighthouse, until the vicinity of those rocks is passed.

B. P. OREAGH, Comdr., R.N.M.,
Port Officer of Calcutta.

Published for general information.

CALCUTTA, the 8th January 1898.

T. H. CLOWES,
Under-Secretary, Marine Department.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 4.

[Second Publication.]

INDIA, WEST—SIND COAST.

Karachi harbour—Buoy marking southern limit of port.

THE British Admiralty has given notice (No. 702 of 1898) that a *conical* buoy, painted red, has been moored in a depth of 20 feet at low water spring tides, in a position with the extremity of Manora point breakwater bearing West, distant $3\frac{1}{2}$ cables, to mark the southern limit of the port of Karachi.

This buoy will be withdrawn during the South-west monsoon.

Approximate position, lat. $24^{\circ} 47' 5''$ N., long. $66^{\circ} 59' 15''$ E.

(Variation 1° Easterly in 1897).

B. P. CARRAGH, Comdr., R.N.M.,
Port Officer of Calcutta

Published for general information.

T. H. CLOWES,
Under-Secretary, Marine Department.

CALCUTTA, the 8th January 1898.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 247.

[Third Publication.]

EASTERN ARCHIPELAGO—STRAIT OF MAXASSAR.

(1) *Pulo Laut strait—Rock south-eastward of Suangi island.*

THE British Admiralty has given notice (No. 726 of 1897) of the existence of a rock, which dries at half tide, or about 3 feet, and is about two-tenths of a cable in length east and west, situated with the tree on the south-east end of Suangi island bearing N. 47° W., distant 8 cables; and entrance of Selaru river N. 38° E.

Approximate position, lat. $3^{\circ} 27' 35''$ S., long. $116^{\circ} 1' 40''$ E.

(2) *Amended particulars of Hercules Reef, Ares Bank, &c.*

Also that—

- (a) Hercules reef, in approximately lat. $2^{\circ} 22\frac{1}{2}'$ S., long. $116^{\circ} 43'$ E., partly dries at low water.

A rock, with a depth of 10 feet on it, and about a cable in diameter is situated N. 20° E., distant $2\frac{1}{2}$ cables, from Hercules reef; and there are depths of 8 fathoms in a S.S.W. direction for about $1\frac{1}{2}$ cables from that reef, in other directions the soundings around Hercules reef are 12 to 19 fathoms.

- (b) Ares bank, eastward of Ares or Aru point, is reported to be situated 2 miles westward of the position in which it has hitherto been shown, and a note to that effect has been placed on the chart.

The beacon on this bank is surmounted by a white ball, and situated approximately in lat. $2^{\circ} 15' 15''$ S., long. $116^{\circ} 39' 30''$ E.

- (c) A rocky patch, now named September reef, consisting of sand, coral, and stones dries over a length of about 2 cables in a N. by E. and S by W. direction, and is about a cable in breadth. It is situated in approximately lat. $2^{\circ} 17' 10''$ S., long. $116^{\circ} 48' 10''$ E.

A rocky patch, of considerable extent, with a depth of 15 feet on it, is situated with its centre S. 54° W., distant $3\frac{1}{2}$ cables, from September reef; and there are other patches with depths of 5 to 6 fathoms on them, extending about a mile and a quarter southward, and nearly a mile northward and north-westward from September reef; the general depths around being 11 to 20 fathoms.

- (d) A rock which dries, with depths of 4 fathoms around, is situated in approximately lat. $2^{\circ} 21' 50''$ S., long. $116^{\circ} 36' 40''$ E.; a rock, with a depth of 2 feet on it, in lat. $2^{\circ} 24' 50''$ S., long. $116^{\circ} 35' 0''$ E.; and a rock, with a depth of 4 feet on it, and depths of 2 fathoms around, in lat. $2^{\circ} 27' 20''$ S., long. $116^{\circ} 34' 5''$ E.

(Variation 2° Easterly in 1897.)

B. P. CARRAGH, Comdr., R.N.M.,
Port Officer of Calcutta

Published for general information.

T. H. CLOWES,
Under-Secretary, Marine Department.

CALCUTTA, the 31st December 1897.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 249.

[Third Publication.]

AFRICA, EAST COAST—ZANZIBAR ISLAND.

Ras Nungwe light regularly exhibited.

The British Admiralty has given notice (No. 727 of 1897) that the light on Ras Nungwe (receding every half minute and other particulars as given at No. 52, List of Lights, part VI., 1897) is now regularly exhibited, and the word "occasional" against the light on the charts; and the remark on page 19 in Light List, part VI., should consequently be expunged.

Approximate position, lat. $5^{\circ} 43' 5''$ S., long. $39^{\circ} 18' 5''$ E.

B. P. CREAGH, Comdr., R.N.,
Port Officer of Calcutta.

Published for general information.

T. H. CLOWES,
Under-Secretary, Marine Department.

CALCUTTA, the 31st December 1897.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 249.

[Third Publication.]

CHINA, EAST COAST—YANG TSE KIANG ENTRANCE.

Alteration in position of Fairway buoy.

The British Admiralty has given notice (No. 729 of 1897) that, in consequence of the recent movement of the South-east spit, Tung sha banks, to the south-westward, the fairway buoy (bell, red and black horizontal stripes) at the entrance of the South channel of the Yang tee kiang has been moved one mile to the southward, and is now moored with Tung sha light-vessel bearing N. 54° W., or approximately in lat. $31^{\circ} 3' 30''$ N., long. $122^{\circ} 9' 0''$ E.

B. P. CREAGH, Comdr., R.N.,
Port Officer of Calcutta.

Published for general information.

T. H. CLOWES,
Under-Secretary, Marine Department.

CALCUTTA, the 31st December 1897.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 250.

[Third Publication.]

AUSTRALIA, EAST—NEW CALEDONIA.

Port Burai—Exhibition of lights.

The British Admiralty has given notice (No. 737 of 1897) that, on 14th February 1897, two leading lights were exhibited at port Burai:—

- (1) The front light is a *fixed red* light, elevated 29 feet above the sea, visible about 10 miles in clear weather and shown between two iron posts, situated on the point at the east side of the northern entrance to Nera (Mero) river, in a position bearing N. 65° E., distant $1\frac{1}{2}$ cables, from Buétaué rock.

Approximate position on Plan No. 1307, lat. $21^{\circ} 36' 45''$ S., long. $165^{\circ} 27' 15''$ E.

- (2) The rear light is a *fixed white* light, elevated 56 feet above the sea, visible about 10 miles in clear weather, and shown between two iron posts, situated N. 18° E., distant 505 feet from the front light.

NOTE.—The above lights in line, bearing N. 18° E., lead in the channel from about 4 miles seaward to the anchorage.

- (3) Also, that a *fixed green* light, elevated 6 feet above the sea, and visible from N. 63° E., through east, to S. 52° E. (over the anchorage), about $\frac{1}{2}$ miles in clear weather, is shown from a shed situated N. 15° E., distant 165 yards, from the point on the northern side of the southern entrance to Nera river.

(Variation 10° Easterly in 1897.)

B. P. CREAGH, Comdr., R.N.,
Port Officer of Calcutta.

Published for general information.

T. H. CLOWES,
Under-Secretary, Marine Department.

CALCUTTA, the 31st December 1897.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 251.

[Third Publication.]

CHINA SEA—HAINAN ISLAND.

Shoal S.S.E. of South-west point.

THE British Admiralty has given notice (No. 738 of 1897) of the existence of a shoal of sand, about a mile in extent east and west, with a depth of $4\frac{1}{2}$ fathoms on it, situated in a position with Snake point bearing N.E. by E. $\frac{1}{2}$ E., distant 13 miles; and South-west point N.N.W. $\frac{1}{2}$ W.

Approximate position, lat. $18^{\circ} 17' N.$, long. $108^{\circ} 47\frac{1}{2}' E.$ (Variation 2° Easterly in 1897.)

B. P. CREAGH, Comdr., R.N.M.,
Port Officer of Calcutta.

Published for general information.

T. H. CLOWES,
Under-Secretary, Marine Department.

CALCUTTA, the 31st December 1897.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 252.

[Third Publication.]

AFRICA, EAST—SOCOTRA.

Coral patch reported eastward of the Brothers.

THE British Admiralty has given notice (No. 739 of 1897) that information has been received that the Master of the German steam-vessel *Hertha* reports that, on 4th November 1897, when in a position with the centre of Jezirat Darsa bearing W. $\frac{1}{2}$ S.; and the bluff of Ras Kattanahan N.W. $\frac{3}{4}$ W.; or approximately in lat. $12^{\circ} 8' N.$, long. $53^{\circ} 50\frac{1}{2}' E.$, he saw a coral patch, about 100 feet long, with apparently depths of 3 to 4 feet on it.

The symbol for a rock with less than 6 feet water on it, with the words "*Hertha 1897*" written against it, has been placed on the Admiralty Charts in the above position.

(Variation 2° Westerly in 1897.)

B. P. CREAGH, Comdr., R.N.M.,
Port Officer of Calcutta.

Published for general information.

T. H. CLOWES,
Under-Secretary, Marine Department.

CALCUTTA, the 31st December 1897.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 1.

[Third Publication.]

BAY OF BENGAL—POOHLY RIVER.

Caution.—Portion of a dhow awash.

THE Master of the S.S. *Senator* reports having passed a portion of a dhow awash S. 25° W. true, 350 miles from Eastern Channel light. The wreck is dangerous to shipping.

B. P. CREAGH, Comdr., R.N.M.,
Port Officer of Calcutta.

Published for general information.

T. H. CLOWES,
Under-Secretary, Marine Department.

CALCUTTA, the 3rd January 1898.



APPENDIX TO

The Calcutta Gazette.

WEDNESDAY, JANUARY 26, 1898.

NOTICES TO MARINERS.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 15.

[First Publication.]

PACIFIC OCEAN—DIANA SHOAL.

An unsuccessful search.

Notice No. 790 of 1897 issued by the British Admiralty is republished.

Information has been received from Captain A. Mostyn-Field, H.M. Surveying Vessel *Penguin*, that, in August 1897, he sounded over an area embracing 80 miles in longitude and nearly 40 miles in latitude, in the vicinity of Diana shoal, originally reported in 1852 as having a depth of 11 feet on it, and as being situated in lat. $8^{\circ} 40' N.$, long. $157^{\circ} 20' W.$

The *Penguin* spent 5 days in the search, obtaining soundings of from 2,560 to 2,948 fathoms at distances of 7 to 10 miles apart, and observing no indication of a shoal in any part of the locality.

In view of the above, and the fact that schooners have plied for many years between Honolulu and Fanning island over the position of the shoal, and that it has not been seen since the first vague report, Diana shoal has been expunged from the Admiralty Charts.

H. LANDQUIST,
for Port Officer of Calcutta.

Published for general information.

T. H. OLIVER,
Under-Secretary, Marine Department.

Calcutta, the 18th January 1898.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 16.

[First Publication.]

EASTERN ARCHIPELAGO—LINGA ISLAND.

Light on south-east point.

The British Admiralty has given notice (No. 797 of 1897) that, about the end of November 1897, a fourth order, *group-flashing* light, showing two flashes in quick succession in each group, was exhibited from Bang or Diang point, Lings island.

Approximate position on Chart No. 1789, lat. $0^{\circ} 14\frac{1}{2}' S.$, long. $104^{\circ} 57\frac{1}{2}' E.$

Further Notice will be given when more particulars are known.

NOTE.—The correct name for the point on which the lighthouse stands is Jang and not Kang or Diang. The Admiralty Charts have now been amended.

H. LINDQUIST,
for Port Officer of Calcutta.

Published for general information.

T. H. CLOWES,
Under-Secretary, Marine Department.

CALCUTTA, the 18th January 1898.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 17.

[First Publication.]

AFRICA, EAST COAST—MOZAMBIQUE.

Lloyd's Signal station at Fort St. Sebastian.

THE British Admiralty has given notice (No. 801 of 1897) that information has been received from Lloyd's, dated 16th December 1897, that a Signal station has been established at Fort St. Sebastian, north-east end of Mozambique island.

Approximate position lat. $15^{\circ} 0' 45''$ S., long. $40^{\circ} 44' 45''$ E.

H. LINDQUIST,
for Port Officer of Calcutta.

Published for general information.

T. H. CLOWES,
Under-Secretary, Marine Department.

CALCUTTA, the 18th January 1898.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 18.

[First Publication.]

BAY OF BENGAL—CHITTAGONG COAST.

River marks and buoys replaced.

WITH reference to Notice to Mariners No. 210, dated 1st November 1897, the Port Officer, Chittagong, has given further notice that all the river marks and buoys that were either destroyed or were out of position by the late cyclone have been replaced in position.

B. P. CREAGH, Comdr., R.N.,
Port Officer of Calcutta.

Published for general information.

T. H. CLOWES,
Under-Secretary, Marine Department.

CALCUTTA, the 24th January 1898.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 19.

[First Publication.]

BAY OF BENGAL—CHITTAGONG COAST.

Blue lights at Kutubdia lighthouse.

WITH reference to Notice to Mariners No. 209, dated 30th October 1897, the Port Officer, Chittagong, has given further notice that on and after the 1st March next, blue lights will be burnt from the Kutubdia lighthouse every half hour. The light is visible 17 miles to seaward in clear weather.

B. P. CREAGH, Comdr., R.N.,
Port Officer of Calcutta.

Published for general information.

T. H. CLOWES,
Under-Secretary, Marine Department.

CALCUTTA, the 24th January 1898.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 5.

[Second Publication.]

BAY OF BENGAL—CHITTAGONG COAST.

Chittagong River.—Depth of water found in the channels.

THE Port Officer, Chittagong, has given notice that the following depth of water was found in the river channels by soundings taken on the 8th January, and reduced to zero :—

	Ft. in.			
<i>Track No. 1.—Outer bar—</i>				
Disc in the centre of Diamond and the Tripod cask and ball	11 3
Disc on Tripod cask and ball	10 0
<i>Track No. 2.—Inner bar—</i>				
Disc on Diamond	11 0
Disc on Tripod, cask and ball	10 0
<i>Track No. 3—</i>				
Tripod on cross and ball	19 0
<i>Track No. 4—</i>				
Triangle, Tripod, cask and ball	20 0
<i>Track No. 5.—Guptakhally crossing—</i>				
Old marks	16 0
Centre	16 0
Tripod on Diamond	15 0

B. P. OREAGH, Comdr., R.N.M.,
Port Officer of Calcutta.

Published for general information.

T. H. CLOWES,
Under-Secretary, Marine Department.

CALCUTTA, the 14th January 1898.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 6.

[Second Publication.]

BAY OF BENGAL—BURMA COAST.

Gulf of Martaban.—Intended light on Amherst point, entrance to Moulmein river.

THE British Admiralty has given notice (No. 768 of 1898) that, on 1st April 1898, a light will be exhibited from the Pilot station, Amherst point.

Amherst point light will be a sixth order, dioptric, fixed red light, elevated 66 feet above high water, and visible from N.N.E., through east, to S.E., a distance of about 8 miles in clear weather.

Approximate position, lat. 16° 4' 45" N., long. 97° 53' 5" E.

(Variation 3° Easterly in 1897.)

B. P. OREAGH, Comdr., R.N.M.,
Port Officer of Calcutta.

Published for general information.

T. H. CLOWES,
Under-Secretary, Marine Department.

CALCUTTA, the 14th January 1898.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 7.

[Second Publication.]

CHINA, EAST—PE CHI LY STRAIT.

Port Arthur—Alteration in light.

THE British Admiralty has given notice (No. 770 of 1897) that, on 20th October 1897, the light shown on the western side of the entrance to port Arthur was altered from *fixed white* to a sixth order, dioptric, group occulting light, with a period of twenty seconds, thus:—light, fourteen seconds; eclipse, two seconds; light, two seconds; eclipse, two seconds.

It shows the following sectors:—red, from N. 13° E. to the land to the westward; white, from N. 13° E., through north, to N. 55° W.; red, from N. 55° W. to N. 81° W.; and white, from N. 81° W., through west, to S. 40° W.; is elevated 87 feet above the sea, and in clear weather the white light should be visible 8 miles and the red light 5 miles.

The light is shown from a building, 7 feet high, painted white, and situated close to the south-east side of the old light-house, which is painted black and white in horizontal bands. The keeper's dwelling and boundary wall are painted white.

Approximate position, lat. 38° 47' 25" N., long. 121° 15' 25" E.

(Variation 4° Westerly in 1897.)

B. P. O'BRIEN, Comdr., R.N.,
Port Officer of Calcutta.

Published for general information.

T. H. CLOWES,
Under-Secretary, Marine Department.

CALCUTTA, the 14th January 1898.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 8.

[Second Publication.]

AUSTRALIA—INNER ROUTE.

Shoals south-eastward of Night island.

NOTICE to Mariners No. 772 of 1897, issued by the British Admiralty, is republished.

The following information, relating to the existence of shoals near Lowrie island, has been received from Lieutenant R. W. Glennie, H.M. Surveying Vessel *Dart*:—

- (1) A coral shoal (Parry rock) of very small extent, with a least depth of 5½ fathoms on it at low water springs and 9 to 10 fathoms, mud bottom, close around, situated on the "course recommended," in a position with centre of Lowrie island (No. VIII) bearing S. 47° W., distant nearly 2½ miles; and Bow reef beacon (as shown on Chart No. 2921) S. 45° E.

Approximate position, lat. 13° 15' 5" S., long. 143° 36' 45" E.

- (2) A coral patch of small extent, with a depth of 8 fathoms on it and 10 to 11 fathoms, mud bottom, close around, in a position bearing N. 67° E., distant 5½ cables, from shoal (1), or approximately in lat. 13° 14' 55" S., long. 143° 37' 20" E.

- (3) A coral shoal (Howard rock) of very small extent, with a least depth of 4½ fathoms on it at low water springs and 9 fathoms, mud bottom, close around, situated on the western side of the fairway, in a position with centre of Lowrie island (No. VIII) bearing N. 75° W., distant 19½ cables; and cape Sidmouth summit (350) S. 9° W.

Approximate position, lat. 13° 17' 5" S., long. 143° 36' 45" E.

NOTE.—That portion of the "course recommended" which passes over the 5½ fathom shoal has been erased from the Chart.

(Variation 5° Easterly in 1897.)

B. P. O'BRIEN, Comdr., R.N.,
Port Officer of Calcutta.

Published for general information.

T. H. CLOWES,
Under-Secretary, Marine Department.

CALCUTTA, the 14th January 1898.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 2.

[Second Publication.]

PACIFIC OCEAN—SANDWICH ISLANDS.

Soundings on banks to the west-north-west.

THE British Admiralty has given notice (No. 774 of 1897) that information has been received that the undermentioned soundings were obtained by the United States vessel-of-war *Forktown* in October 1897:—

1. FROST BANK:—

Soundings of 63 to 12 fathoms, over a blue ooze, blue mud, fine white sand, and rocky bottom, on this bank (originally reported by the vessel *E. L. Frost* in 1859) between lats. $23^{\circ} 45' N.$ and $23^{\circ} 45' N.$ and longs. $163^{\circ} 33' W.$ and $163^{\circ} 18' W.$ The 12 fathoms is situated approximately in lat. $23^{\circ} 45' N.$, long. $163^{\circ} 25' W.$

2. A sounding of 47 fathoms, rocky bottom, in a position with Modu Mann (Bird island) bearing S.W. by S., distant 11 miles; or approximately in lat. $23^{\circ} 10' N.$, long. $161^{\circ} 47' W.$ (Variation 11° Easterly in 1897.)

B. P. CREAGH, Comdr., R.N.M.,
Port Officer of Calcutta.

Published for general information.

T. H. CLOWES,
Under-Secretary, Marine Department.

CALCUTTA, the 14th January 1898.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 10.

[Second Publication.]

CHINA.

Typhoon and storm signals—Codes for signals.

WITH reference to Notice to Mariners No. 241, dated 17th December 1897, issued by this Office, the British Admiralty has given further notice (No. 777 of 1897) that further information has been received from the Chinese Government that, in making the typhoon and storm warning signals at the semaphores of the several ports, the flags of Marryat's Code will be used for the numbers, and those of the International Code for the letters only.

B. P. CREAGH, Comdr., R.N.M.,
Port Officer of Calcutta.

Published for general information.

T. H. CLOWES,
Under-Secretary, Marine Department.

CALCUTTA, the 14th January 1898.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 11.

[Second Publication.]

PACIFIC OCEAN—SANDWICH ISLANDS.

Hawaii—Exhibition of lights.

THE British Admiralty has given notice (No. 779 of 1897) that a *fixed white light*, elevated 60 feet above the sea, and visible 10 miles in clear weather, is shown from a wooden, framework tower, painted white, and situated on Kouhola point, western side of Keokea harbour, north coast of Hawaii.

Approximate position, lat. $20^{\circ} 14' N.$, long. $155^{\circ} 46' W.$

Also, that a *fixed white light*, elevated 65 feet above the sea, and visible 10 miles in clear weather, is shown from a wooden, framework tower, painted white situated at Keawemoe, southward of Alia point, east coast of Hawaii.

Approximate position, lat. $19^{\circ} 51' N.$, long. $155^{\circ} 6' W.$

B. P. CREAGH, Comdr., R.N.M.,
Port Officer of Calcutta.

Published for general information.

T. H. CLOWES,
Under-Secretary, Marine Department.

CALCUTTA, the 14th January 1898.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 12.

[Second Publication.]

AUSTRALIA—TORRES STRAIT—INNER ROUTE.

(1) *Passage through the Great Barrier Reef, near the Howick group.*

THE Port Master, Brisbane, has given notice (No. 20 of 1897) that Captain W. Dawson, of H.M.S. *Waterwitch*, reports having sounded out the passage through the Great Barrier Reef, which lies between Stapleton (X) Islet (in lat. $14^{\circ} 19' 12''$ S., long. $144^{\circ} 51' 3''$ E.) and No. 1 sandbank.

The passage, which will be known hereafter as "Waterwitch Passage," is clear of dangers and carries a depth of 14 to 19 fathoms.

Vessels proceeding to sea from the Inner Route should pass between Bewick and Ingham Islands, and, having made Stapleton Island, leave it on the starboard hand $\frac{1}{2}$ mile distant; then steering N. 10° E. (mag.) for 7.4 miles will bring No. 1 sandbank abeam. It is close to the edge of the reef, and should be passed on the starboard hand $\frac{1}{2}$ mile distant. The passage is $1\frac{1}{2}$ miles wide, but the reef on the west side of it should be given a good berth, as it was not sounded off. Heavy tide-rips and strong tidal currents are met with in the passage, but on the sandbank side it is always smooth. The northern edge of the reef west of Stapleton Island bears N. $62\frac{1}{2}^{\circ}$ W. from Stapleton. The channel between the two is 2.2 miles wide, and quite clear of dangers.

Charts affected—2922, 780 and 2964.

Australia Directory, Vol. II, page 348.

(2) *Rock off Haughton Island—Howick group.*

Also, that a Rock, with 18 feet on it at low-water springs, exists westward of Haughton Island. From it the summit of Howick Island bears N. 63° E. (mag.), distant 2.3 miles.

The rock is less than a mile off the recommended track.

Charts affected—2922 and 2764.

Australia Directory, Vol. II, page 347.

H. LINDQUIST,
for Port Officer of Calcutta.

Published for general information.

T. H. CLOWES,
Under-Secretary, Marine Department.

CALCUTTA, the 17th January 1898.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 13.

[Second Publication.]

AUSTRALIA—FRANKLAND ISLANDS.

The islands incorrectly charted.

THE Port Master, Brisbane, has given notice (No. 21 of 1897) that the west extreme of Normanby Island (Frankland Islands) is found to be 2 cables further west than shown on Chart No. 2350.

Australia Directory, Vol. II, page 322.

H. LINDQUIST,
for Port Officer of Calcutta.

Published for general information.

T. H. CLOWES,
Under-Secretary, Marine Department.

CALCUTTA, the 17th January 1898.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 14.

[Second Publication.]

AUSTRALIA—CAIRNS HARBOUR—TRINITY BAY.

Fairway beacon with illuminated gung.

THE Port Master, Brisbane, has given notice (No. 22 of 1897) that an automatic clock-face tide gung, illuminated at night, is exhibited from the Fairway Beacon at the outer edge of the bar at Cairns Harbour. The beacon from which False Cape bears S. $79^{\circ} 30'$ E and the front leading light S. 24° W. is placed in a depth of 15 feet at low-water springs, and is 150 feet from the line of lights and beacons marking the centre of the bar cutting. It is to be left on the port hand when entering.

The tide gauge indicates the height of tide above low-water datum from 1 foot to 11 feet by means of a pointer moving round a clock-face dial looking seaward. The gauge does not indicate below 1 foot nor above 11 feet, the pointer resting at those points, so that 1 foot should be interpreted 1 foot or under and 11 feet as 11 feet and over.

The available depth in the cutting will be obtained by adding 12' 6" to the height shown by the gauge.

The light will be visible in clear weather at a distance of 5 miles, except between the bearings of W. S. W. and S. S. E., between which bearings the direct light is obscured, and the frosted clock-face is only visible.

The old red Fairway Buoy has been removed.

Charts affected—Nos. 2924 and 2350.

Australia Directory, Vol. II, page 237.

H. LINDQUIST,
for Port Officer of Calcutta.

Published for general information.

CALCUTTA, the 17th January 1898.

T. H. CLOWES,
Under-Secretary, Marine Department.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 2.

[Third Publication.]

NEW ZEALAND—NORTH ISLAND.

Sunken wreck north-westward of Table Cape.

THE British Admiralty has given notice (No. 744 of 1897) that the wreck of the steam-vessel *Tasmania* lies sunk in a depth of 15 fathoms, with the masts just below the surface of the water, in a position with the north-east extreme of Table Cape bearing S. E. $\frac{1}{2}$ S. distant about $3\frac{1}{8}$ miles; and point on northern side of entrance to Horaka river S. W. by W. $\frac{1}{2}$ W.

Approximate position, lat. $39^{\circ} 2' 40''$ S., long. $177^{\circ} 59' 50''$ E.

A marked buoy has been moored to each mast of the wreck, but they should not be relied upon, and vessels should give the vicinity of the wreck a good berth in passing.

(Variation 14° Easterly in 1897.)

B. P. CREAGH, Comdr., R.N.M.,
Port Officer of Calcutta.

Published for general information.

CALCUTTA, the 8th January 1898.

T. H. CLOWES,
Under-Secretary, Marine Department.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 3.

[Third Publication.]

NEW ZEALAND—COOK STRAIT.

North island—Exhibition of Cape Palliser light.

WITH reference to Notice to Mariners No. 182, dated 18th September 1897, issued by this office, the British Admiralty has given further notice (No. 747 of 1897) that on 7th October 1897, Cape Palliser light would be exhibited.

Cape Palliser (Rocky point) light is a second order, dioptric, group flashing white light with a period of thirty seconds; showing two flashes, separated by an interval of three seconds, in each group.

It is elevated 258 feet above high water, and visible seaward, over an arc of 214° (or from about E. $\frac{1}{2}$ N., through north and west, to S. W. $\frac{1}{2}$ W.), a distance of 23 miles in clear weather.

The lighthouse, an iron tower, painted white, on a concrete base, is 58 feet high, and 640 feet from high water mark, at an elevation of 210 feet above the sea.

Approximate position, lat. $41^{\circ} 36' 45''$ S., long. $175^{\circ} 18' 45''$ E.

CAUTION.—As the light is visible over Black rocks and part of the point to the northward of them, vessels should not approach within 5 miles of the lighthouse, until the vicinity of those rocks is passed.

B. P. CREAGH, Comdr., R.N.M.,
Port Officer of Calcutta.

Published for general information.

CALCUTTA, the 8th January 1898.

T. H. CLOWES,
Under-Secretary, Marine Department.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 4.

[Third Publication.]

INDIA, WEST—SIND COAST.

Karachi harbour—Buoy marking southern limit of port.

THE British Admiralty has given notice (No. 762 of 1898) that a conical buoy, painted red, has been moored in a depth of 20 feet at low water spring tides, in a position with the extremity of Manora point breakwater bearing West, distant $3\frac{1}{2}$ cables, to mark the southern limit of the port of Karachi.

This buoy will be withdrawn during the South-west monsoon.

Approximate position, lat. $24^{\circ} 47' 5''$ N., long. $66^{\circ} 59' 15''$ E.

(Variation 1° Easterly in 1897).

B. P. GARASH, Comdr., R.N.,
Port Officer of Calcutta.

Published for general information.

T. H. CLOWES,
Under-Secretary, Marine Department.

CALCUTTA, the 8th January 1898.



APPENDIX TO

The Calcutta Gazette.

WEDNESDAY, FEBRUARY 2, 1898.

NOTICES TO MARINERS.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 20.

[First Publication.]

BAY OF BENGAL—ORISSA COAST.

Outer western Ridge buoy under repairs.

THE Port Officer, False Point, has given notice that the outer western Ridge buoy has been taken ashore for repairs, and that it has been replaced by a fifth class flat topped buoy.

B. P. CREAGH, Comdr., R.I.M.,
Port Officer of Calcutta.

Published for general information.

Calcutta, the 25th January 1898.

T. H. CLOWES,
Under-Secretary, Marine Department.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 21.

[First Publication.]

BAY OF BENGAL—BURMA COAST.

Temporary relieving of Baragua flats light-vessel further postponed.

In continuation of Notice to Mariners No. 244, dated 27th December last, the Port Officer, Rangoon, has given notice that the relieving of Baragua flats light-vessel has been further postponed to the 10th February next.

B. P. CREAGH, Comdr., R.I.M.,
Port Officer of Calcutta.

Published for general information.

Calcutta, the 25th January 1898.

T. H. CLOWES,
Under-Secretary, Marine Department.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 22.

[First Publication.]

BAY OF BENGAL—CHITTAGONG COAST.

South Patches—Disappearance of Whistling buoy.

THE Port Officer, Chittagong, has given notice that the Whistling buoy, South Patches, has disappeared.

B. P. CREAGH, Comdr., R.I.M.,
Port Officer of Calcutta.

Published for general information.

Calcutta, the 26th January 1898.

T. H. CLOWES,
Under-Secretary, Marine Department.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 22.

[First Publication.]

CHINA—PE CHILI STRAIT.

Liau ti shan lighthouse—Fog signal.

THE British Admiralty has given notice (No. 803 of 1897) that, on 20th October 1897, the undermentioned fog signal would be established at Liau ti shan lighthouse:—

During thick or foggy weather, in answer to signals from approaching vessels, a gun will be fired *three* times, with an interval of *one minute* between two successive reports. Should the vessel's signals continue to be heard, the above signal will be repeated after an interval of *fifteen minutes*.

Approximate position, lat. $38^{\circ} 43' 15''$ N., long. $121^{\circ} 8' 15''$ E.

B. P. O'BRIEN, Comdr., R.N.,
Port Officer of Calcutta.

Published for general information.

CALCUTTA, the 29th January 1898.

T. H. CLOWES,
Under-Secretary, Marine Department.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 24.

[First Publication.]

JAPAN—KOREA STRAIT.

Tsu sima—Sunken rock southward of Mame (Zonson) sima.

THE British Admiralty has given notice (No. 805 of 1897) of the existence of a rock, with a depth of $4\frac{1}{2}$ fathoms on it at low water springs, situated in a position with Ko (Koo) saki lighthouse bearing S. 85° E., distant $2\frac{1}{2}$ miles; and Mame saki N. 80° E.

Approximate position, lat. $34^{\circ} 5' 30''$ N., long. $129^{\circ} 8' 50''$ E.

(Variation 4° Westerly in 1897.)

B. P. O'BRIEN, Comdr., R.N.,
Port Officer of Calcutta.

Published for general information.

CALCUTTA, the 29th January 1898.

T. H. CLOWES,
Under-Secretary, Marine Department.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 26.

[First Publication.]

KOREA, SOUTH-WEST COAST—THISTLE ISLAND.

Rocks.

THE British Admiralty has given notice (No. 806 of 1897) of the existence of the undermentioned two rocks:—

1. One, which dries at low water, situated midway between the Thistle island marked (406) and the small island next eastward of it.

Approximate position, lat. $34^{\circ} 23'$ N., long. $126^{\circ} 04'$ E.

2. The other, which also dries at low water situated N.N.W., distant 2 cables, from the last-mentioned small island.

(Variation 4° Westerly in 1897.)

B. P. O'BRIEN, Comdr., R.N.,
Port Officer of Calcutta.

Published for general information.

CALCUTTA, the 29th January 1898.

T. H. CLOWES,
Under-Secretary, Marine Department.

GOVERNMENT OF BENGAL,—MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 26.

[First Publication.]

AFRICA, EAST—RED SEA, EASTERN SHORE.

Kamaran approach—Shoal south-east of Rishah island.

THE British Admiralty has given notice (No. 808 of 1897) that the extremity of the foul ground south-eastward of Rishah island, where there is a depth of $4\frac{1}{2}$ fathoms, is situated with beacon on summit of Rishah island bearing N. W. by N., distant $1\frac{1}{16}$ miles.

Approximate position, lat. $15^{\circ} 9' 50''$ N., long. $42^{\circ} 34' 20''$ E.

A depth of $4\frac{1}{2}$ fathoms, with the words "Reported 1897" written against it, has been placed on the Admiralty Chart in the above position.

(Variation 4° Westerly in 1897.)

B. P. O'BAGH, Comdr., R.N.,
Port Officer of Calcutta.

Published for general information.

CALCUTTA, the 29th January 1898.

T. H. CLOWES,
Under-Secretary, Marine Department.

GOVERNMENT OF BENGAL,—MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 27.

[First Publication.]

AUSTRALIA, EAST COAST—HOBARTSON CHANNEL.

Alteration in light on Lucinda point.

THE British Admiralty has given notice (No. 809 of 1897) that the light on Lucinda point, which is visible from S. 19° E. to S. 49° E., has been altered in colour from white to red.

Approximate position on Chart No. 2348, lat. $18^{\circ} 31' 25''$ S., long. $140^{\circ} 20' 10''$ E.

(Variation 7° Easterly in 1897.)

B. P. O'BAGH, Comdr., R.N.,
Port Officer of Calcutta.

Published for general information.

CALCUTTA, the 29th January 1898.

T. H. CLOWES,
Under-Secretary, Marine Department.

GOVERNMENT OF BENGAL,—MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 28.

[First Publication.]

EASTERN ARCHIPELAGO—SUMBANA.

(1) *Rocks southward of Madang (Flat island).*

THE British Admiralty has given notice (No. 811 of 1897) of the existence of a rock, about $2\frac{1}{2}$ cables in length, N.N.W. and S.S.E., and half a cable broad, part of which dries at low water, situated about S. by W. $\frac{1}{4}$ W. from Madang west point, or approximately in lat. $8^{\circ} 14'$ S., long. $117^{\circ} 18'$ E. A rock, with a depth of 3 fathoms on it, is situated N. 43° E., distant $1\frac{1}{4}$ cables, from the south part of the above rock.

(2) *Doubtful existence of sunken rocks in Saleh strait.*

Also, that the two rocks, marked as with less than 8 feet of water on them, in Saleh strait, the western one in approximately lat. $8^{\circ} 23'$ S., long. $117^{\circ} 27'$ E., the other about $1\frac{1}{4}$ miles eastward of that position, are not known to the native Pilots, and their existence is considered doubtful.

Pending a further search, the letters E. D. have been placed against each of these rocks on the Charts.

(3) *Dry sand bank northward of Dangan Besar.*

Also, of the existence of a sand bank, which dries, in a position with north-east point of Dangan Besar bearing S. 39° E., distant $1\frac{1}{4}$ miles; and Tunah or Baras point, S. 76° W. Depths of 10 to 15 fathoms were found between the sand bank and the rocks northward of Dangan Besar.

Approximate position, sand bank, lat. $8^{\circ} 23\frac{1}{2}'$ S., long. $117^{\circ} 39'$ E.

(Variation 8° Easterly in 1897.)

B. P. O'BAGH, Comdr., R.N.,
Port Officer of Calcutta.

Published for general information.

CALCUTTA, the 29th January 1898.

T. H. CLOWES,
Under-Secretary, Marine Department.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 38.

[First Publication.]

JAPAN—Yezo.

Sunken rock northward of cape Tomomai (Shishikoff).

THE British Admiralty has given notice (No. 818 of 1897) of the existence of a rock with a depth of 3 fathoms on it, with $3\frac{1}{2}$ fathoms for a distance of 3 cables northward, and depths of 8 to 10 fathoms around, situated in approximately lat. $44^{\circ} 22' 0''$ N., long. $141^{\circ} 35' 30''$ E.

NOTE.—The coast, from Tomomai village for about 10 miles southward, has shoal water extending 3 to 6 cables from it.

B. P. CREAGH, Comdr., R.N.M.,
Port Officer of Calcutta.

Published for general information.

CALCUTTA, the 29th January 1898.

T. H. CLOWES,
Under-Secretary, Marine Department.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 39.

[First Publication.]

BAY OF BENGAL—BURMA COAST.

Gulf of Martaban—Temporary alteration in Krishna light vessel and light.

THE British Admiralty has given notice (No. 4 of 1898) that, on 28th November 1897, Krishna light vessel (group-flashing white light) was temporarily withdrawn, and replaced by the light vessel Martaban, which shows a flashing white light every forty-five seconds, thus:—light, five seconds; eclipse, forty seconds.

Approximate position, lat. $15^{\circ} 36' N.$, long. $95^{\circ} 34' E.$

B. P. CREAGH, Comdr., R.N.M.,
Port Officer of Calcutta.

Published for general information.

CALCUTTA, the 31st January 1898.

T. H. CLOWES,
Under-Secretary, Marine Department.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 31.

[First Publication.]

AUSTRALIA, NORTH COAST—THURSDAY ISLAND HARBOUR.

Sunken rock northward of Heath point.

THE British Admiralty has given notice (No. 6 of 1898) that the rock, with a depth of 19 feet on it at low water, on which the steam-vessel *Duke of Devonshire* recently struck, and now named Devonshire rock, is situated on a bank stretching off Heath point, with the flagstaff a quarter of a mile westward of Heath point bearing $S. 63^{\circ} W.$, distant $8\frac{1}{2}$ cables; and black beacon at western extreme of Thursday island shore reef $N. 37^{\circ} W.$

Approximate position, lat. $10^{\circ} 35' 40'' S.$, long. $142^{\circ} 12' 20'' E.$

(Variation 5° Easterly in 1897.)

B. P. CREAGH, Comdr., R.N.M.,
Port Officer of Calcutta.

Published for general information.

CALCUTTA, the 31st January 1898.

T. H. CLOWES,
Under-Secretary, Marine Department.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.

NOTICE TO MARINERS—(No. 32.)

[First Publication.]

EASTERN ARCHIPELAGO—LINGA ISLAND.

Light on Jang point exhibited.

WITH reference to Notice to Mariners No. 16, dated 18th January, issued by this office, the British Admiralty has given further notice (No. 7 of 1898) that on 7th December 1897, a fourth order, group-flashing light, with a period of thirty seconds, showing two flashes in quick succession in each group, was exhibited from Jang point, Linga island.

Approximate position on Chart No. 1789, lat. $0^{\circ} 14\frac{1}{2}' S.$, long. $104^{\circ} 57\frac{1}{2}' E.$

B. P. CREAGH, Comdr., R.N.M.,
Port Officer of Calcutta.

Published for general information.

CALCUTTA, the 31st January 1898.

T. H. CLOWES,
Under-Secretary, Marine Department.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 15.

[Second Publication.]

PACIFIC OCEAN—DIANA SHOAL.

An unsuccessful search.

NOTICE No. 790 of 1897 issued by the British Admiralty is republished. Information has been received from Captain A. Mostyn-Field, H.M. Surveying Vessel *Penguin*, that, in August 1897, he sounded over an area embracing 80 miles in longitude and nearly 40 miles in latitude, in the vicinity of Diana shoal, originally reported in 1852 as having a depth of 6 feet on it, and as being situated in lat. $8^{\circ} 40' N.$, long. $157^{\circ} 20' W.$ The *Penguin* spent 5 days in the search, obtaining soundings of from 2,560 to 2,946 fathoms at distances of 7 to 10 miles apart, and observing no indication of a shoal in any part of the locality.

In view of the above, and the fact that schooners have plied for many years between Honolulu and Fanning island over the position of the shoal, and that it has not been seen since the first vague report, Diana shoal has been expunged from the Admiralty Charts.

H. LANDQUIST,
for Port Officer of Calcutta.

Published for general information.

CALCUTTA, the 18th January 1898.

T. H. CLOWES,
Under-Secretary, Marine Department.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 16.

[Second Publication.]

EASTERN ARCHIPELAGO—LINGA ISLAND.

Light on south-east point.

The British Admiralty has given notice (No. 797 of 1897) that, about the end of November 1897, a fourth order, *group-flashing* light, showing two flashes in quick succession in each group, was exhibited from Eung or Diang point, Linga island.

Approximate position on Chart No. 1789, lat. $0^{\circ} 14\frac{1}{2}' S.$, long. $104^{\circ} 57\frac{1}{2}' E.$

Further Notice will be given when more particulars are known.

NOTE.—The correct name for the point on which the lighthouse stands is Jang and not Eung or Diang. The Admiralty Charts have now been amended.

H. LANDQUIST,
for Port Officer of Calcutta.

Published for general information.

CALCUTTA, the 18th January 1898.

T. H. CLOWES,
Under-Secretary, Marine Department.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 17.

[Second Publication.]

AFRICA, EAST COAST—MOZAMBIQUE.

Lloyd's Signal station at Fort St. Sebastian.

The British Admiralty has given notice (No. 801 of 1897) that information has been received from Lloyd's, dated 16th December 1897, that a Signal station has been established at fort St. Sebastian, north-east end of Mozambique island.

Approximate position lat. $15^{\circ} 0' 45'' S.$, long. $40^{\circ} 44' 45'' E.$

H. LANDQUIST,
for Port Officer of Calcutta.

Published for general information.

CALCUTTA, the 18th January 1898.

T. H. CLOWES,
Under-Secretary, Marine Department.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 18.

[Second Publication.]

BAY OF BENGAL—CHITTAGONG COAST.

River marks and buoys replaced.

With reference to Notice to Mariners No. 210, dated 1st November 1897, the Port Officer, Chittagong, has given further notice that all the river marks and buoys that were either destroyed or were out of position by the late cyclone have been replaced in position.

B. P. CREAGH, *Comdr., R.N.M.,*
Port Officer of Calcutta.

Published for general information.

CALCUTTA, the 24th January 1898.

T. H. CLOWES,
Under-Secretary, Marine Department.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 19.

[Second Publication.]

RAY OF BENGAL—CHITTAGONG COAST.

Blue lights at Kutubdia lighthouse.

• With reference to Notice to Mariners No. 209, dated 30th October 1897, the Port Officer, Chittagong, has given further notice that on and after the 1st March next, blue lights will be burnt from the Kutubdia lighthouse every half hour. The light is visible 17 miles to seaward in clear weather.

B. P. CREAGH, Comdr., R.N.M.,
Port Officer of Calcutta

Published for general information.

T. H. CLOWES,
Under-Secretary, Marine Department

CALCUTTA, the 24th January 1898.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.

NOTICE TO MARINEERS—No. 6.

[Third Publication.]

BAY OF BENGAL—CHITTAGONG COAST.

Chittagong River.—Depth of water found in the channels.

THE Port Officer, Chittagong, has given notice that the following depth of water was found in the river channels by soundings taken on the 8th January, and reduced to zero:—

F_T. IN.

Track No. 1.—Outer bar—

Dice in the centre of Diamond and the Tripod each and ball ... 11 3

Disc on Tripod cask and ball	10	0
------------------------------	-----	-----	-----	----	---

Track No. 2.—Inner bar—

Disc on Diamond	11	0
-----------------	-----	-----	-----	-----	-----------	----------

Disc on Tripod, cask and ball	10	0
-------------------------------	-----	-----	-----	----	---

Track No. 3—

Tripod on cross and ball	19	0
--------------------------	-----	-----	-----	----	---

Track No. 4—

Triangle, Tripod, cask and ball	20	0
---------------------------------	-----	-----	-----	----	---

Track No. 5.—Guplakhalley crossing—

Old marks	16 0
-----------	-----	-----	-----	-----	-----	------

Centro	16	0
--------	-----	-----	-----	-----	-----	----	---

Tripod on Diamond	15	0
-------------------	-----	-----	-----	-----	----	---

B. P. OREAGH, *Comdr., R. I. M.,*
Port Officer of Calcutta.

Published for general information.

T. H. CLOWER,
Under-Secretary, Marine Department.

CALCUTTA, the 14th January 1898.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 6.

[Third Publication.]

BAY OF BENGAL—BURMA COAST.

Gulf of Martaban—Intended light on Amherst point, entrance to Moumein river.

THE British Admiralty has given notice (No. 768 of 1898) that, on 1st April 1898, a light will be exhibited from the Pilot station, Amherst point.

Amherst point light will be a sixth order, dioptric, *fixed red light*, elevated 66 feet above high water, and visible from N.N.E., through east, to S.E., a distance of about 8 miles in clear weather.

Approximate position, lat. 16° 4' 45" N., long. 97° 33' 5" E.

(Variation 3° Easterly in 1897.)

B. P. ORRACH, Comdr., R.I.M.,
Port Officer of Calcutta.

Published for general information.

T. H. CLOWES,
Under-Secretary, Marine Department.

CALCUTTA, the 14th January 1898.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 7.

[Third Publication.]

CHINA, EAST—PE CHI LI STRAIT,

Port Arthur—Alteration in light.

THE British Admiralty has given notice (No. 770 of 1897) that, on 20th October 1897, the light shown on the western side of the entrance to port Arthur was altered from *fixed white* to a *sixth order, dioptric, group occulting light*, with a period of *twenty seconds*, thus:—*light, fourteen seconds; eclipse, two seconds; light, two seconds; eclipse, two seconds.*

It shows the following sectors:—*red*, from N. 13° E. to the land to the westward; *white*, from N. 13° E., through north, to N. 55° W.; *red*, from N. 55° W. to N. 81° W.; and *white* from N. 81° W., through west, to S. 40° W.; is elevated 87 feet above the sea, and in clear weather the white light should be visible 8 miles and the red light 5 miles.

The light is shown from a building, 7 feet high, painted white, and situated close to the south-east side of the old light-house, which is painted black and white in horizontal bands. The keeper's dwelling and boundary wall are painted white.

Approximate position, lat. 38° 47' 25" N., long. 121° 15' 25" E.
(Variation 4° Westerly in 1897.)

B. P. CARRAGH, Comdr., R.I.M.,
Port Officer of Calcutta.

Published for general information.

CALCUTTA, the 14th January 1898.

T. H. CLOWES,
Under-Secretary, Marine Department.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 8.

[Third Publication.]

AUSTRALIA—INNER ROUTE.

Shoals south-eastward of Night island.

NOTICE to Mariners No. 772 of 1897, issued by the British Admiralty, is republished.

The following information, relating to the existence of shoals near Lowrie island, has been received from Lieutenant R. W. Glennie, H.M. Surveying Vessel *Dart*:—

- (1) A coral shoal (Parry rock) of very small extent, with a least depth of 5½ fathoms on it at low water springs and 9 to 10 fathoms, mud bottom, close around, situated on the "course recommended," in a position with centre of Lowrie island (No. VIII) bearing S. 47° W., distant nearly 2½ miles; and Bow reef beacon (as shown on Chart No. 2921) S. 45° E.

Approximate position, lat. 13° 15' 5" S., long. 143° 36' 45" E.

- (2) A coral patch of small extent, with a depth of 8 fathoms on it and 10 to 11 fathoms, mud bottom, close around, in a position bearing N. 67° E., distant 5½ cables, from shoal (1), or approximately in lat. 13° 14' 55" S., long. 143° 37' 26" E.

- (3) A coral shoal (Howard rock) of very small extent, with a least depth of 4½ fathoms on it at low water springs and 9 fathoms, mud bottom, close around, situated on the western side of the fairway, in a position with centre of Lowrie island (No. VIII) bearing N. 75° W., distant 19½ cables; and cape Sidmouth summit (350) S. 9° W.

Approximate position, lat. 13° 17' 5" S., long. 143° 36' 45" E.

NOTE.—That portion of the "course recommended" which passes over the 5½ fathom shoal has been erased from the Chart.

(Variation 5° Easterly in 1897.)

B. P. CARRAGH, Comdr., R.I.M.,
Port Officer of Calcutta.

Published for general information.

CALCUTTA, the 14th January 1898.

T. H. CLOWES,
Under-Secretary, Marine Department.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 9.

[Third Publication.]

PACIFIC OCEAN—SANDWICH ISLANDS.

Soundings on banks to the west-north-west.

THE British Admiralty has given notice (No. 774 of 1897) that information has been received that the undermentioned soundings were obtained by the United States vessel-of-war *Kerktown* in October 1897:—

1. FROST BANK:—

Soundings of 63 to 12 fathoms, over a blue ooze, blue mud, fine white sand, and rocky bottom, on this bank (originally reported by the vessel *E. L. Frost*

in 1859) between lats. $23^{\circ} 45\frac{1}{2}'$ N. and $23^{\circ} 45'$ N. and longs. $163^{\circ} 33'$ W. and $163^{\circ} 18'$ W. The 12 fathoms is situated approximately in lat. $23^{\circ} 45\frac{1}{2}'$ N., long. $163^{\circ} 26'$ W.

2. A sounding of 47 fathoms, rocky bottom, in a position with Modu Mann (Bird island) bearing S.W. by S., distant 11 miles; or approximately in lat. $23^{\circ} 40'$ N., long. $161^{\circ} 47'$ W.

(Variation 11° Easterly in 1897.)

B. P. CREAGH, *Comdr., R.N.M.,*
Port Officer of Calcutta.

Published for general information.

T. H. CLOWES,
Under-Secretary, Marine Department.

CALCUTTA, the 14th January 1898.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 10.

[Third Publication.]

CHINA.

Typhoon and storm signals—Codes for signals.

With reference to Notice to Mariners No. 241, dated 17th December 1897, issued by this Office, the British Admiralty has given further notice (No. 777 of 1897) that further information has been received from the Chinese Government that, in making the typhoon and storm warning signals at the semaphores of the several ports, the flags of Marryat's Code will be used for the numbers, and those of the International Code for the letters only.

B. P. CREAGH, *Comdr., R.N.M.,*
Port Officer of Calcutta.

Published for general information.

T. H. CLOWES,
Under-Secretary, Marine Department.

CALCUTTA, the 14th January 1898.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 11.

[Third Publication.]

PACIFIC OCEAN—SANDWICH ISLANDS.

Hawaii—Exhibition of lights.

THE British Admiralty has given notice (No. 779 of 1897) that a fixed white light, elevated 60 feet above the sea, and visible 10 miles in clear weather, is shown from a wooden, framework tower, painted white, and situated on Kouhola point, western side of Keekes harbour, north coast of Hawaii.

Approximate position, lat. $20^{\circ} 14\frac{1}{2}'$ N., long. $155^{\circ} 46\frac{1}{2}'$ W.

Also, that a fixed white light, elevated 65 feet above the sea, and visible 10 miles in clear weather, is shown from a wooden, framework tower, painted white situated at Keawemo, southward of Alia point, east coast of Hawaii.

Approximate position, lat. $19^{\circ} 51'$ N., long. $155^{\circ} 6\frac{1}{2}'$ W.

B. P. CREAGH, *Comdr., R.N.M.,*
Port Officer of Calcutta.

Published for general information.

T. H. CLOWES,
Under-Secretary, Marine Department.

CALCUTTA, the 14th January 1898.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 12.

[Third Publication.]

AUSTRALIA—TORRES STRAIT—INNER ROUTE.

(1) *Passage through the Great Barrier Reef, near the Howick group.*

THE Port Master, Brisbane, has given notice (No. 20 of 1897) that Captain W. Dawson, of H.M.S. *Waterwitch*, reports having sounded out the passage through the Great Barrier Reef, which lies between Stapleton (X) Islet (in lat. $14^{\circ} 19' 12''$ S., long. $144^{\circ} 51' 3''$ E.) and No. 1 sandbank.

The passage, which will be known hereafter as "Waterwitch Passage," is clear of dangers and carries a depth of 14 to 19 fathoms.

Vessels proceeding to sea from the Inner Route should pass between Bewick and Ingham Islands, and, having made Stapleton Island, leave it on the starboard hand $\frac{1}{2}$ mile distant; then steering N. 10° E. (mag.) for 7.4 miles will bring No. 1 sandbank abeam. It is close to the edge of the reef, and should be passed on the starboard hand $\frac{1}{2}$ mile distant. The passage is $1\frac{1}{2}$ miles wide, but the reef on the west side of it should be given a good berth, as it was not sounded off. Heavy tide-rips and strong tidal currents are met with in the passage, but on the sandbank side it is always smooth. The northern edge of the reef west of Stapleton Island bears N. $82\frac{1}{2}^{\circ}$ W. from Stapleton. The channel between the two is 2.2 miles wide, and quite clear of dangers.

Charts affected—2922, 780 and 2904.
Australia Directory, Vol. II, page 348.

(2) *Rock off Houghton Island—Howick group.*

Also, that a Rock, with 18 feet on it at low-water springs, exists westward of Houghton Island. From it the summit of Howick Island bears N. 63° E. (mag.), distant 2.3 miles. The rock is less than a mile off the recommended track.

Charts affected—2922 and 2764.
Australia Directory, Vol. II, page 347.

H. LINDBQUIST,
for Port Officer of Calcutta.
Published for general information.

T. H. CLOWES,
Under-Secretary, Marine Department.

CALCUTTA, the 17th January 1898.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 13.

[Third Publication.]

AUSTRALIA—FRANKLAND ISLANDS.

The islands incorrectly charted.

THE Port Master, Brisbane, has given notice (No. 21 of 1897) that the west extreme of Normanby Island (Frankland Islands) is found to be 2 cables further west than shown on Chart No. 2350.

Australia Directory, Vol. II, page 322.

H. LINDBQUIST,
for Port Officer of Calcutta.
Published for general information.

T. H. CLOWES,
Under-Secretary, Marine Department.

CALCUTTA, the 17th January 1898.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 14.

[Third Publication.]

AUSTRALIA—CAIRNS HARBOUR—TRINITY BAY.

Fairway beacon with illuminated gauge.

THE Port Master, Brisbane, has given notice (No. 22 of 1897) that an automatic clock-face tide gauge, illuminated at night, is exhibited from the Fairway Beacon at the outer edge of the bar at Cairns Harbour. The beacon from which Palses Cape bears S. 79° $30'$ E. and the front leading light S. 24° W. is placed in a depth of 15 feet at low-water springs, and is 150 feet from the line of lights and beacons marking the centre of the bar cutting. It is to be left on the port hand when entering.

The tide gauge indicates the height of tide above low-water datum from 1 foot to 11 feet by means of a pointer moving round a clock-face dial looking seaward. The gauge does not indicate below 1 foot nor above 11 feet, the pointer resting at those points, so that 1 foot should be interpreted 1 foot or under and 11 feet as 11 feet and over.

The available depth in the cutting will be obtained by adding $12' 6''$ to the height shown by the gauge.

The light will be visible in clear weather at a distance of 5 miles, except between the bearings of W. S. W. and S. S. E., between which bearings the direct light is obscured, and the frosted clock-face is only visible.

The old red Fairway Buoy has been removed.

Charts affected—Nos. 2924 and 2350.

Australia Directory, Vol. II, page 237.

H. LINDBQUIST,
for Port Officer of Calcutta.
Published for general information.

T. H. CLOWES,
Under-Secretary, Marine Department.

CALCUTTA, the 17th January 1898.



APPENDIX TO
The Calcutta Gazette.

WEDNESDAY, FEBRUARY 9, 1898.

NOTICES TO MARINERS.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 38.

[First Publication.]

AUSTRALIA—NORTH BARNARD ISLANDS.

A new sixth order flashing light exhibited.

THE Portmaster, Brisbane, has given notice (No. 23 of 1897) that a 6th Order Double Flashing White Light is now exhibited from the summit of the South-eastern Island of the North Barnards, the focal plane being at an altitude of 292 feet above high water level.

The light is visible in clear weather at a distance of 16 miles, seaward, between the bearings of approximately N. $\frac{1}{2}$ E. and S.E. $\frac{1}{2}$ E. and shows a double flash every 10 seconds.

The structure is 10 feet high and consists of a circular lantern erected on a concrete base and painted white.

In the event of accident to the electric motor or flashing apparatus a small fixed light will be exhibited.

Geographical position (approx.) :—Lat. $17^{\circ} 40' 45''$ S., Long. $146^{\circ} 12' 45''$ E.: From Admiralty Chart.

Chart affected, No. 2349.

Australia Directory, Vol. II., page 317.

B. P. CREAGH, Comdr., R.N.M.,
Port Officer of Calcutta.

Published for general information.

T. H. CLOWES,
Under-Secretary, Marine Department.

CALCUTTA, the 2nd February 1898.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 20.

[Second Publication.]

BAY OF BENGAL—ORISSA COAST.

Outer western Ridge buoy under repairs.

THE Port Officer, False Point, has given notice that the outer western Ridge buoy has been taken ashore for repairs, and that it has been replaced by a fifth class flat topped buoy.

B. P. CREAGH, Comdr., R.N.M.,
Port Officer of Calcutta.

Published for general information.

T. H. CLOWES,
Under-Secretary, Marine Department.

CALCUTTA, the 25th January 1898.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 21.

[Second Publication.]

BAY OF BENGAL—BURMA COAST.

Temporary relieving of Baragua flats light-vessel further postponed.

In continuation of Notice to Mariners No. 244, dated 27th December last, the Port Officer, Rangoon, has given notice that the relieving of Baragua flats light-vessel has been further postponed to the 10th February next.

B. P. OREAGH, Comdr., R.I.M.,
Port Officer of Calcutta.

Published for general information.

CALCUTTA, the 25th January 1898.

T. H. CLOWES,
Under-Secretary, Marine Department.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 22.

[Second Publication.]

BAY OF BENGAL—CHITTAGONG COAST.

South Patches—Disappearance of Whistling buoy.

THE Port Officer, Chittagong, has given notice that the Whistling buoy, South Patches, has disappeared.

B. P. OREAGH, Comdr., R.I.M.,
Port Officer of Calcutta.

Published for general information.

CALCUTTA, the 26th January 1898.

T. H. CLOWES,
Under-Secretary, Marine Department.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 23.

[Second Publication.]

CHINA—PE CHILI STRAIT.

Liau ti shan lighthouse—Fog signal.

THE British Admiralty has given notice (No. 803 of 1897) that, on 20th October 1897, the undermentioned fog signal would be established at Liau ti shan lighthouse:—

During thick or foggy weather, in answer to signals from approaching vessels, a gun will be fired *three* times, with an interval of *one minute* between two successive reports. Should the vessel's signals continue to be heard, the above signal will be repeated after an interval of *fifteen minutes*.

Approximate position, lat. $38^{\circ} 43' 15''$ N., long. $121^{\circ} 8' 15''$ E.

B. P. OREAGH, Comdr., R.I.M.,
Port Officer of Calcutta.

Published for general information.

CALCUTTA, the 20th January 1898.

T. H. CLOWES,
Under-Secretary, Marine Department.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 24.

[Second Publication.]

JAPAN—KOREA STRAIT.

Tsu sima—Sunken rock southward of Mame (Zonagon) sima.

THE British Admiralty has given notice (No. 805 of 1897) of the existence of a rock, with a depth of $4\frac{1}{2}$ fathoms on it at low water springs, situated in a position with Ko (Koo) saki lighthouse bearing S. 85° E., distant $2\frac{1}{2}$ miles; and Mame saki N. 80° E.

Approximate position, lat. $34^{\circ} 5' 30''$ N., long. $129^{\circ} 8' 50''$ E.

(Variation 4° Westerly in 1897.)

B. P. OREAGH, Comdr., R.I.M.,
Port Officer of Calcutta.

Published for general information.

CALCUTTA, the 20th January 1898.

T. H. CLOWES,
Under-Secretary, Marine Department.

GOVERNMENT OF BENGAL,—MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 25.

[Second Publication.]

KOREA, SOUTH-WEST COAST—THISTLE ISLAND.

Rocks.

The British Admiralty has given notice (No. 806 of 1897) of the existence of the undermentioned two rocks:—

1. One, which dries at low water, situated midway between the Thistle island marked (406) and the small island next eastward of it.
Approximate position, lat. $34^{\circ} 23' N.$, long. $126^{\circ} 0\frac{1}{2}' E.$

2. The other, which also dries at low water situated N.N.W., distant 2 cables, from the last-mentioned small island.
(Variation 4° Westerly in 1897.)

B. P. CREAGH, Comdr., R.N.M.,
Port Officer of Calcutta.

Published for general information.

CALCUTTA, the 29th January 1898.

T. H. CLOWES,
Under-Secretary, Marine Department.

GOVERNMENT OF BENGAL,—MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 26.

[Second Publication.]

AFRICA, EAST—RED SEA, EASTERN SHORE.

Kamran approach—Shoal south-east of Rishah island.

The British Admiralty has given notice (No. 808 of 1897) that the extremity of the foul ground south-eastward of Rishah island, where there is a depth of $4\frac{1}{2}$ fathoms, is situated with beacon on summit of Rishah island bearing N.W. by N., distant $1\frac{1}{2}$ miles.

Approximate position, lat. $15^{\circ} 9' 50'' N.$, long. $42^{\circ} 34' 20'' E.$

A depth of $4\frac{1}{2}$ fathoms, with the words "Reported 1897" written against it, has been placed on the Admiralty Chart in the above position.
(Variation 4° Westerly in 1897.)

B. P. CREAGH, Comdr., R.N.M.,
Port Officer of Calcutta.

Published for general information.

CALCUTTA, the 29th January 1898.

T. H. CLOWES,
Under-Secretary, Marine Department.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 27.

[Second Publication.]

AUSTRALIA, EAST COAST—HICHINBROOK CHANNEL.

Alteration in light on Lucinda point.

The British Admiralty has given notice (No. 809 of 1897) that the light on Lucinda point, which is visible from S. 19° E. to S. 49° E., has been altered in colour from white to red.

Approximate position on Chart No. 2349, lat. $18^{\circ} 31' 25'' S.$, long. $146^{\circ} 20' 10'' E.$
(Variation 7° Easterly in 1897.)

B. P. CREAGH, Comdr., R.N.M.,
Port Officer of Calcutta.

Published for general information.

CALCUTTA, the 29th January 1898.

T. H. CLOWES,
Under-Secretary, Marine Department.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 28.

[Second Publication.]

EASTERN ARCHIPELAGO—SUMBANA.

(1) *Rocks southward of Madang (Flat island).*

The British Admiralty has given notice (No. 811 of 1897) of the existence of a rock, about $2\frac{1}{2}$ cables in length, N.N.W. and S.S.E., and half a cable broad, part of which dries at low water, situated about S. by W. $\frac{1}{2}$ W. from Madang west point, or approximately in lat. $14^{\circ} 8'$, long. $117^{\circ} 18' E.$ A rock, with a depth of 3 fathoms on it, is situated N. 43° E., distant $1\frac{1}{2}$ cables, from the south part of the above rock.

(2) *Doubtful existence of sunken rocks in Salah strait.*

Also, that the two rocks, marked as with less than 6 feet of water on them, in Salah strait, the western one in approximately lat. $8^{\circ} 23' S.$, long. $117^{\circ} 27' E.$, the other about $1\frac{1}{2}$ miles eastward of that position, are not known to the native Pilots, and their existence is considered doubtful.

Pending a further search, the letters E. D. have been placed against each of these rocks on the Charts.

(3) *Dry sand bank northward of Dangan Besar.*

Also, of the existence of a sand bank, which dries, in a position with north-east point of Dangan Besar bearing S. $39^{\circ} E.$, distant $1\frac{1}{2}$ miles; and Tunah or Raras point, S. $76^{\circ} W.$ Depths of 10 to 15 fathoms were found between the sand bank and the rocks northward of Dangan Besar.

Approximate position, sand bank, lat. $8^{\circ} 23\frac{1}{2}' S.$, long. $117^{\circ} 39' E.$
(Variation 2° Easterly in 1897.)

B. P. CREAGH, Comdr., R.I.M.,
Port Officer of Calcutta.

Published for general information.

T. H. CLOWES,
Under-Secretary, Marine Department.

CALCUTTA, the 29th January 1898.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.
NOTICE TO MARINERS—No. 29.

[Second Publication.]

JAPAN—Yezo.

Sunken rock northward of cape Tomomai (Shishkoff).

THE British Admiralty has given notice (No. 813 of 1897) of the existence of a rock with a depth of 3 fathoms on it, with $3\frac{1}{2}$ fathoms for a distance of 3 cables northward, and depths of 8 to 10 fathoms around, situated in approximately lat. $44^{\circ} 22' 0'' N.$, long. $141^{\circ} 38' 30'' E.$

NOTE.—The coast, from Tomomai village for about 10 miles southward, has shoal water extending 3 to 6 cables from it.

B. P. CREAGH, Comdr., R.I.M.,
Port Officer of Calcutta.

Published for general information.

T. H. CLOWES,
Under-Secretary, Marine Department.

CALCUTTA, the 29th January 1898.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.
NOTICE TO MARINERS—No. 30.

[Second Publication.]

BAY OF BENGAL—BURMA COAST.

Gulf of Martaban—Temporary alteration in Krishna light vessel and light.

THE British Admiralty has given notice (No. 4 of 1898) that, on 28th November 1897, Krishna light vessel (group-flashing white light) was temporarily withdrawn, and replaced by the light vessel Martaban, which shows a flashing white light every forty-five seconds, thus:—light, five seconds; eclipse, forty seconds.

Approximate position, lat. $15^{\circ} 36' N.$, long. $95^{\circ} 34' E.$

B. P. CREAGH, Comdr., R.I.M.,
Port Officer of Calcutta.

Published for general information.

T. H. CLOWES,
Under-Secretary, Marine Department.

CALCUTTA, the 31st January 1898.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.
NOTICE TO MARINERS—No. 31.

[Second Publication.]

AUSTRALIA, NORTH COAST—THURSDAY ISLAND HARBOUR.

Sunken rock northward of Heath point.

THE British Admiralty has given notice (No. 6 of 1898) that the rock, with a depth of 19 feet on it at low water, on which the steam-vessel Duke of Devonshire recently struck, and now named Devonshire rock, is situated on a bank stretching off Heath point, with the

flagstaff a quarter of a mile westward of Heath point bearing S. 63° W., distant 3½ cables; and black beacon at western extremity of Thursday island shore reef N. 37° W.

Approximate position, lat. 10° 35' 40" S., long. 142° 12' 20" E.

(Variation 5° Easterly in 1897.)

B. P. OREAGH, Comdr., R.I.M.,
Port Officer of Calcutta.

Published for general information.

CALCUTTA, the 31st January 1898.

T. H. CLOWES,
Under-Secretary, Marine Department.

GOVERNMENT OF BENGAL,—MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 31.

[Second Publication.]

EASTERN ARCHIPELAGO—LINGA ISLAND.

Light on Jang point exhibited.

With reference to Notice to Mariners No. 16, dated 18th January, issued by this office, the British Admiralty has given further notice (No. 7 of 1898) that on 7th December 1897, a fourth order, group-flashing light, with a period of thirty seconds, showing two flashes in quick succession in each group, was exhibited from Jang point, Linga island.

Approximate position on Chart No. 1789, lat. 0° 14½' S., long. 104° 57½' E.

B. P. OREAGH, Comdr., R.I.M.,
Port Officer of Calcutta.

Published for general information.

CALCUTTA, the 31st January 1898.

T. H. CLOWES,
Under-Secretary, Marine Department.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 16.

[Third Publication.]

PACIFIC OCEAN—DIANA SHOAL

An unsuccessful search.

NOTICE No. 790 of 1897 issued by the British Admiralty is republished.

Information has been received from Captain A. Mostyn-Field, H.M. Surveying Vessel *Penguin*, that, in August 1897, he sounded over an area embracing 80 miles in longitude and nearly 40 miles in latitude, in the vicinity of Diana shoal, originally reported in 1852 as having a depth of 6 feet on it, and as being situated in lat. 8° 40' N., long. 157° 20' W.

The *Penguin* spent 5 days in the search, obtaining soundings of from 2,560 to 2,946 fathoms at distances of 7 to 10 miles apart, and observing no indication of a shoal in any part of the locality.

In view of the above, and the fact that schooners have plied for many years between Honolulu and Fanning island over the position of the shoal, and that it has not been seen since the first vague report, Diana shoal has been expunged from the Admiralty Charts.

H. LANDQUIST,
for Port Officer of Calcutta.

Published for general information.

CALCUTTA, the 18th January 1898.

T. H. CLOWES,
Under-Secretary, Marine Department.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 16.

[Third Publication.]

EASTERN ARCHIPELAGO—LINGA ISLAND.

Light on south-east point.

The British Admiralty has given notice (No. 797 of 1897) that, about the end of November 1897, a fourth order, group-flashing light, showing two flashes in quick succession in each group, was exhibited from Bung or Diang point, Linga island.

Approximate position on Chart No. 1789, lat. 0° 14½' S., long. 104° 57½' E.

Further Notice will be given when more particulars are known.

NOTE.—The correct name for the point on which the lighthouse stands is Jang and not Bung or Diang. The Admiralty Charts have now been amended.

H. LANDQUIST,
for Port Officer of Calcutta.

Published for general information.

CALCUTTA, the 18th January 1898.

T. H. CLOWES,
Under-Secretary, Marine Department.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 17.

[Third Publication.]

AFRICA, EAST COAST—MOZAMBIQUE.

Lloyd's Signal station at Fort St. Sebastian.

THE British Admiralty has given notice (No. 801 of 1897) that information has been received from Lloyd's, dated 16th December 1897, that a Signal station has been established at fort St. Sebastian, north-east end of Mozambique island.

Approximate position lat. $15^{\circ} 0' 45''$ S., long. $40^{\circ} 44' 45''$ E.

H. LANDQUIST,
for Port Officer of Calcutta.

Published for general information.

CALCUTTA, the 18th January 1898.

T. H. CLOWES,
Under-Secretary, Marine Department.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 18.

[Third Publication.]

BAY OF BENGAL—CHITTAGONG COAST.

River marks and buoys replaced.

WITH reference to Notice to Mariners No. 210, dated 1st November 1897, the Port Officer, Chittagong, has given further notice that all the river marks and buoys that were either destroyed or were out of position by the late cyclone have been replaced in position.

B. P. CREAGH, *Comdr., R.N.,*
Port Officer of Calcutta.

Published for general information.

CALCUTTA, the 24th January 1898.

T. H. CLOWES,
Under-Secretary, Marine Department.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 19.

[Third Publication.]

BAY OF BENGAL—CHITTAGONG COAST.

Blue lights at Kutubdia lighthouse.

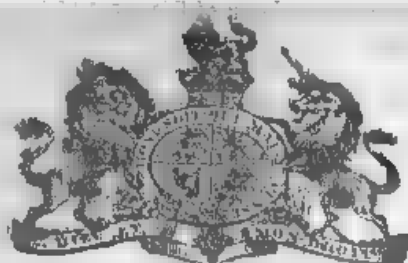
WITH reference to Notice to Mariners No. 209, dated 30th October 1897, the Port Officer, Chittagong, has given further notice that on and after the 1st March next, blue lights will be burnt from the Kutubdia lighthouse every half hour. The light is visible 17 miles to seaward in clear weather.

B. P. CREAGH, *Comdr., R.N.,*
Port Officer of Calcutta.

Published for general information.

CALCUTTA, the 24th January 18' 8.

T. H. CLOWES,
Under-Secretary, Marine Department.



APPENDIX TO

The Calcutta Gazette.

WEDNESDAY, FEBRUARY 16, 1898.

NOTICES TO MARINERS.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 34.

[First Publication.]

BAY OF BENGAL—ORISSA COAST.

New Elfin Fairway buoy shifted; and Dinga flat extended.

THE Port Officer, Chandbally, has given notice that the New Elfin Fairway buoy has been shifted 3,000 feet W. by N. of its former position into 10 feet reduced; flagstaff N. 70° W. from fairway buoy. There is now 1' 9" on the New Elfin Bar.

The centre Elfin black buoy has been shifted 50 feet east of its former position into 5 feet reduced. Masters of vessels making the entrance of Balasore river *via* New Elfin channel should come in on a course of N. 40° 30' W. magnetic from Fairway buoy transit marks. The new Elfin transit marks have been shifted from their former position on the bearing in line N. 40° 30' W. The backing mark has been surmounted by a white globe as this shows up much better with the jungle forming a dark back ground.

The old channel is shoaling up, and there is now on the outer bar 6 inches, and the inner bar is dry at low water.

The Dinga flat has extended considerably and encroaches into the channel. Masters should keep well into the right bank as the flat is very steep, and should open Whoorguddi Reach slightly before crossing. Small bamboo marks have been erected for this purpose.

H. LINDQUIST,
for Port Officer of Calcutta.

Published for general information.

Calcutta, the 9th February 1898.

T. H. CLOWES,
Under-Secretary, Marine Department.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 35.

[First Publication.]

AUSTRALIA—PORT PHILIP.

Lights exhibited in the river Yarra.

THE British Admiralty has given notice (No. 10 of 1898) that the undermentioned lights are exhibited in the river Yarra, in addition to those shown from the 4 gas buoys moored on the port side of the channel between the entrance and Williamstown steam ferry:—

1. A white light is shown from a beacon erected on the north (starboard) side of the entrance of the river; and a red light from a beacon on the south (port) side of the entrance. These replace the gas buoys previously moored in those positions.

Approximate position, white light, lat. 37° 51' 15" S., long. 144° 54' 40" E.

2. A white light, on the river bank nearly opposite Williamstown steam ferry, in a position with Sandridge (port Melbourne) Railway pier lighthouse bearing S. 85° E., distant 15½ cables; and State school, North Williamstown, S. 9° W.

3. Eight white lights on the same bank of the river as light (2), situated respectively on the following bearings and distances from that light :—
- N. by W. $\frac{1}{2}$ W., distant $2\frac{1}{8}$ cables; close to the bank.
 - N. by W. $\frac{1}{2}$ W., distant 4 cables; close to the bank.
 - N. $\frac{1}{2}$ W., distant $5\frac{1}{8}$ cables; close to the bank.
 - N. $\frac{1}{2}$ W., distant 7 cables; close to the bank.
 - N. $\frac{1}{2}$ E., distant $8\frac{1}{8}$ cables; at the extremity of the southern timber jetty.
 - N. $\frac{1}{2}$ E., distant $9\frac{1}{8}$ cables; at the extremity of the northern timber jetty.
 - N. by E. $\frac{1}{2}$ E., distant $11\frac{1}{8}$ cables; at the west end of the sheet piling.
 - N. E. $\frac{1}{2}$ N., distant $18\frac{1}{8}$ cables; on the bank, nearly opposite the Harbour Trust workshops.
4. A red light on the north side of the entrance to Stony creek, in a position with the centre of the Cement works, on the south side of Stony creek, bearing W. by N. $\frac{1}{2}$ N., distant 2 cables; and centre of Smelting works N. by E. $\frac{1}{2}$ E.
5. A red light on the east side of the entrance to Saltwater river, in a position with centre of Smelting works bearing W. $\frac{1}{2}$ N., distant $1\frac{1}{2}$ cables; and extremity of northern timber jetty S.S.W. $\frac{1}{2}$ W.
6. Two white lights on the same bank as light (5), on the following bearings and distance from that light :—
- N. E. by E. $\frac{1}{2}$ E., distant 3 cables; close to the bank.
 - N. E. by E. $\frac{1}{2}$ E., distant 6 cables; close to the bank.
 - A red light, in a position bearing E. by N. $\frac{1}{2}$ N., distant $9\frac{1}{8}$ cables; from light (5); and at the extremity of the point eastward of the Harbour Trust workshops.

(Variation 8° Easterly in 1898.)

H. LINDBQUIST,
for Port Officer of Calcutta.

Published for general information.

T. H. CLOWES,
Under-Secretary, Marine Department.

CALCUTTA, the 11th February 1898.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 28.

[First Publication.]

BAY OF BENGAL—BURMA COAST.

Gulf of Martaban—Buoys westward of Balugyun and Goodwin sands, Moumein approach.

THE British Admiralty has given notice (No. 12 of 1898) that the undermentioned buoys have been placed westward of Balugyun and Goodwin sands :—

- A can buoy, painted black and numbered 1, moored on the north side of the entrance to the buoyed channel through Balugyun sands, in a position with conspicuous tree on south coast of Balugyun bearing N.N.E. $\frac{1}{2}$ E., distant $2\frac{1}{8}$ miles; and Wai gyee Chaung beacon E. by S. $\frac{1}{2}$ S.
Approximate position on Plan No. 1845, lat. $16^{\circ} 12' 5''$ N., long. $97^{\circ} 29' 5''$ E.
- A conical buoy, painted red, numbered 1 and surmounted by a pole and basket, moored on the south side of the entrance to the buoyed channel through Balugyun sands, in a position with Balugyun conspicuous tree bearing N. by E. $\frac{1}{2}$ E., distant $2\frac{1}{8}$ miles; and Wai gyee Chaung beacon E. by S. $\frac{1}{2}$ S.
- A conical buoy, painted red and named Balugyun sand buoy, moored in a position with Balugyun conspicuous tree bearing N. $\frac{1}{2}$ E., distant $4\frac{1}{8}$ miles; and Wai gyee Chaung beacon E. $\frac{1}{2}$ S.
- A conical buoy, painted red and named Goodwin sand buoy, moored in a position with Balugyun conspicuous tree bearing N. $\frac{1}{2}$ E., distant $6\frac{1}{8}$ miles; and Wai gyee Chaung beacon E. by N. $\frac{1}{2}$ N.

NOTE.—The buoy moored on the western side of the Patch, about W. by N. $\frac{1}{2}$ N. from Amherst point, is now a conical buoy, painted red and surmounted by pole and basket.
CAUTION.—The channel north of Balugyun sand is marked with red buoys on the south side and black buoys on the north side. As stated on the chart, this is the only available channel, but it has not been surveyed. Pilots are necessary and can be obtained at Amherst.

(Variation 5° Easterly in 1898.)

H. LINDBQUIST,
for Port Officer of Calcutta.

Published for general information.

T. H. CLOWES,
Under-Secretary, Marine Department.

CALCUTTA, the 11th February 1898.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 37.

[First Publication.]

JAPAN—NIPPON.

Akumi peninsula—Oyama light discontinued.

THE British Admiralty has given notice (No. 14 of 1898) that Oyama light (*fixed red*), which was discontinued (temporarily) in 1895, has not since appeared in the Japanese Light List, and it has consequently been removed from the Admiralty publications.

Approximate position, lat. $34^{\circ} 35' 30''$ N., long. $137^{\circ} 9' 0''$ E.

H. LANDQUIST,
for Port Officer of Calcutta.

Published for general information.

T. H. CLOWES,
Under-Secretary, Marine Department.

CALCUTTA, the 11th February 1898.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 38.

[First Publication.]

BAY OF BENGAL—CHITTAGONG COAST.

Chittagong river—Depth of water found in the channels.

THE Port Officer, Chittagong, has given notice that the following depth of water was found in the river channels by soundings taken on the 7th February and reduced to zero:—

	Ft.	In.
<i>Track No. I—Outer bar—</i>		
Disc in the centre of Diamond and the Tripod cask and buoy	11	3
Disc on Tripod cask and ball	10	0
<i>Track No. II—Inner bar—</i>		
Disc on Diamond	10	6
Disc on Tripod cask and ball	10	0
<i>Track No. III—</i>		
Tripod on cross and ball	19	0
<i>Track No. IV—</i>		
Triangle on tripod, cask and ball	20	0
<i>Track No. V—Guptakhally crossing—</i>		
Old marks	18	0
Centre	18	0
Tripod on diamond	15	0

H. LANDQUIST,
for Port Officer of Calcutta.

Published for general information.

T. H. CLOWES,
Under-Secretary, Marine Department.

CALCUTTA, the 11th February 1898.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 39.

[First Publication.]

BAY OF BENGAL—ORISSA COAST.

Outer western Ridge buoy replaced in position.

WITH reference to Notice to Mariners No. 20, dated 25th ultimo, issued by this office, the Port Officer, False Point, has given further notice that the outer western Ridge buoy has been replaced in position; and the 5th class flat-topped buoy withdrawn.

H. LANDQUIST,
for Port Officer of Calcutta.

Published for general information.

T. H. CLOWES,
Under-Secretary, Marine Department.

CALCUTTA, the 14th February 1898.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 58.

[Second Publication.]

AUSTRALIA—NORTH BARNARD ISLANDS.

A new sixth order flashing light exhibited.

THE PORTMASTER, Brisbane, has given notice (No. 23 of 1897) that a 6th Order Double Flashing White Light is now exhibited from the summit of the South-eastern Island of the North Barnards, the focal plane being at an altitude of 292 feet above high water level.

The light is visible in clear weather at a distance of 16 miles, seaward, between the bearings of approximately N. $\frac{1}{2}$ E. and S.E. $\frac{1}{2}$ E. and shows a double flash every 10 seconds.

The structure is 10 feet high and consists of a circular lantern erected on a concrete base and painted white.

In the event of accident to the electric motor or flashing apparatus a small fixed light will be exhibited.

Geographical position (approx.):—Lat. $17^{\circ} 40' 45''$ S., Long. $146^{\circ} 12' 45''$ E.: From Admiralty Chart.

Chart affected, No. 2349.

Australia Directory, Vol. II., page 317.

B. P. ORRAGE, Comdr., R.N.M.,
Port Officer of Calcutta.

Published for general information.

T. H. CLOWES,
Under-Secretary, Marine Department.

CALCUTTA, the 2nd February 1898.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 20.

[Third Publication.]

BAY OF BENGAL—ONISSA COAST.

Outer western Ridge buoy under repairs.

THE PORT OFFICER, False Point, has given notice that the outer western Ridge buoy has been taken ashore for repairs, and that it has been replaced by a fifth class flat topped buoy.

B. P. ORRAGE, Comdr., R.N.M.,
Port Officer of Calcutta.

Published for general information.

T. H. CLOWES,

Under-Secretary, Marine Department.

CALCUTTA, the 25th January 1898.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 21.

[Third Publication.]

BAY OF BENGAL—BURMA COAST.

Temporary relieving of Baragua flats light-vessel further postponed.

In continuation of Notice to Mariners No. 244, dated 27th December last, the Port Officer, Rangoon, has given notice that the relieving of Baragua flats light-vessel has been further postponed to the 10th February next.

B. P. ORRAGE, Comdr., R.N.M.,
Port Officer of Calcutta.

Published for general information.

T. H. CLOWES,

Under-Secretary, Marine Department.

CALCUTTA, the 25th January 1898.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 22.

[Third Publication.]

BAY OF BENGAL—CHITTAGONG COAST.

South Patches—Disappearance of Whistling buoy.

THE PORT OFFICER, Chittagong, has given notice that the Whistling buoy, South Patches, has disappeared.

B. P. ORRAGE, Comdr., R.N.M.,
Port Officer of Calcutta.

Published for general information.

T. H. CLOWES,

Under-Secretary, Marine Department.

CALCUTTA, the 26th January 1898.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 22.

[Third Publication.]

CHINA—PE CHILI STRAIT.

Liau ti shan lighthouse—Fog signal.

The British Admiralty has given notice (No. 803 of 1897) that, on 20th October 1897, the undermentioned fog signal would be established at Liau ti shan lighthouse:—

During thick or foggy weather, in answer to signals from approaching vessels, a gun will be fired three times, with an interval of one minute between two successive reports. Should the vessel's signals continue to be heard, the above signal will be repeated after an interval of fifteen minutes.

Approximate position, lat. $38^{\circ} 43' 15''$ N., long. $121^{\circ} 8' 15''$ E.

B. P. O'BRIEN, Comdr., R.N.M.,
Port Officer of Calcutta.

Published for general information.

CALCUTTA, the 29th January 1898.

T. H. CLOWES,
Under-Secretary, Marine Department.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 24.

[Third Publication.]

JAPAN—KOREA STRAIT.

Tru sima—Sunken rock southward of Mame (Zonson) sima.

The British Admiralty has given notice (No. 805 of 1897) of the existence of a rock, with a depth of $4\frac{1}{2}$ fathoms on it at low water springs, situated in a position with Ko (Koo) lighthouse bearing S. 85° E., distant $2\frac{1}{2}$ miles; and Mame saki N. 30° E.

Approximate position, lat. $34^{\circ} 5' 30''$ N., long. $129^{\circ} 8' 50''$ E.

(Variation 4° Westerly in 1897.)

B. P. O'BRIEN, Comdr., R.N.M.,
Port Officer of Calcutta.

Published for general information.

CALCUTTA, the 29th January 1898.

T. H. CLOWES,
Under-Secretary, Marine Department.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 25.

[Third Publication.]

KOREA, SOUTH-WEST COAST—THISTLE ISLAND.

Rocks.

The British Admiralty has given notice (No. 806 of 1897) of the existence of the undermentioned two rocks:—

1. One, which dries at low water, situated midway between the Thistle island marked (406) and the small island next eastward of it.

Approximate position, lat. $34^{\circ} 23'$ N., long. $126^{\circ} 04'$ E.

2. The other, which also dries at low water situated N.N.W., distant 2 cables, from the last-mentioned small island.

(Variation 4° Westerly in 1897.)

B. P. O'BRIEN, Comdr., R.N.M.,
Port Officer of Calcutta.

Published for general information.

CALCUTTA, the 29th January 1898.

T. H. CLOWES,
Under-Secretary, Marine Department.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 26.

[Third Publication.]

AFRICA, EAST—RED SEA, EASTERN SHORE.

Ramran approach—Shoal south-east of Rishah island.

The British Admiralty has given notice (No. 808 of 1897) that the extremity of the foul ground south-eastward of Rishah island, where there is a depth of $4\frac{1}{2}$ fathoms, is situated with beacon on summit of Rishah island bearing N.W. by N., distant $1\frac{1}{2}$ miles.

Approximate position, lat. $15^{\circ} 8' 50''$ N., long. $42^{\circ} 34' 20''$ E.

A depth of 4½ fathoms, with the words "Reported 1897" written against it, has been placed on the Admiralty Chart in the above position.

(Variation 4° Westerly in 1897.)

B. P. ORRAGH, Comdr., R.N.M.,
Port Officer of Calcutta.

Published for general information.

CALCUTTA, the 29th January 1898.

T. H. CLOWES,
Under-Secretary, Marine Department.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 27.

[Third Publication.]

AUSTRALIA, EAST COAST—HICHINGBROOK CHANNEL.

Alteration in light on Lucinda point.

THE British Admiralty has given notice (No. 809 of 1897) that the light on Lucinda point, which is visible from S. 19° E. to S. 49° E., has been altered in colour from white to red.

Approximate position on Chart No. 2349, lat. 18° 31' 25" S., long. 146° 20' 10" E.

(Variation 7° Easterly in 1897.)

B. P. ORRAGH, Comdr., R.N.M.,
Port Officer of Calcutta.

Published for general information.

CALCUTTA, the 29th January 1898.

T. H. CLOWES,
Under-Secretary, Marine Department.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 28.

[Third Publication.]

EASTERN ARCHIPELAGO—SUMBANA.

(1) Rocks southward of Madang (Flat island).

THE British Admiralty has given notice (No. 811 of 1897) of the existence of a rock, about 2½ cables in length, N.N.W. and S.S.E., and half a cable broad, part of which dries at low water, situated about S. by W. ½ W. from Madang west point, or approximately in lat. 8° 14' S., long. 117° 18' E. A rock, with a depth of 3 fathoms on it, is situated N. 43° E. distant 1½ cables, from the south part of the above rock.

(2) Doubtful existence of sunken rocks in Saleh strait.

Also, that the two rocks, marked as with less than 6 feet of water on them, in Saleh strait, the western one in approximately lat. 8° 23' S., long. 117° 27' E., the other about 1½ miles eastward of that position, are not known to the native Pilots, and their existence is considered doubtful.

Pending a further search, the letters E. D. have been placed against each of these rocks on the Charts.

(3) Dry sand bank northward of Dangan Besar.

Also, of the existence of a sand bank, which dries, in a position with north-east point of Dangan Besar bearing S. 39° E., distant 1½ miles; and Tunah or Raras point, S. 76° W. Depths of 10 to 15 fathoms were found between the sand bank and the rocks northward of Dangan Besar.

Approximate position, sand bank, lat. 8° 23½' S., long. 117° 39' E.

(Variation 3° Easterly in 1897.)

B. P. ORRAGH, Comdr., R.N.M.,
Port Officer of Calcutta.

Published for general information.

CALCUTTA, the 29th January 1898.

T. H. CLOWES,
Under-Secretary, Marine Department.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 29.

[Third Publication.]

JAPAN—YEZO.

Sunken rock northward of cape Tomomai (Shishkoff).

THE British Admiralty has given notice (No. 818 of 1897) of the existence of a rock with a depth of 3 fathoms on it, with $3\frac{1}{2}$ fathoms for a distance of 3 cables northward, and depths of 8 to 10 fathoms around, situated in approximately lat. $44^{\circ} 22' 0''$ N., long. $141^{\circ} 38' 30''$ E.

NOTE.—The coast, from Tomomai village for about 10 miles southward, has shoal water extending 3 to 6 cables from it.

B. P. CREAGH, Comdr., R.I.M.,
Port Officer of Calcutta.

Published for general information.

CALCUTTA, the 29th January 1898.

T. H. CLOWES,
Under-Secretary, Marine Department.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 30.

[Third Publication.]

BAY OF BENGAL—BURMA COAST.

Gulf of Martaban—Temporary alteration in Krishna light vessel and light.

THE British Admiralty has given notice (No. 4 of 1898) that, on 28th November 1897, Krishna light vessel (group-flashing white light) was temporarily withdrawn, and replaced by the light vessel *Martaban*, which shows a flashing white light every forty-five seconds, thus:—light, five seconds; eclipse, forty seconds.

Approximate position, lat. $15^{\circ} 36'$ N, long. $95^{\circ} 34'$ E.

B. P. CREAGH, Comdr., R.I.M.,
Port Officer of Calcutta.

Published for general information.

CALCUTTA, the 31st January 1898.

T. H. CLOWES,
Under-Secretary, Marine Department.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 31.

[Third Publication.]

AUSTRALIA, NORTH COAST—THURSDAY ISLAND HARBOUR.

Sunken rock northward of Heath point.

THE British Admiralty has given notice (No. 6 of 1898) that the rock, with a depth of 19 feet on it at low water, on which the steam-vessel *Duke of Devonshire* recently struck, and now named Devonshire rock, is situated on a bank stretching off Heath point, with the flagstaff a quarter of a mile westward of Heath point bearing S. 63° W., distant $3\frac{1}{2}$ cables; and black beacon at western extreme of Thursday island shore reef N. 37° W.

Approximate position, lat. $10^{\circ} 35' 40''$ S., long. $142^{\circ} 12' 20''$ E.
(Variation 6° Easterly in 1897.)

B. P. CREAGH, Comdr., R.I.M.,
Port Officer of Calcutta.

Published for general information.

CALCUTTA, the 31st January 1898.

T. H. CLOWES,
Under-Secretary, Marine Department.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 32.

[Third Publication.]

EASTERN ARCHIPELAGO—LINGA ISLAND.

Light on Jang point exhibited.

WITH reference to Notice to Mariners No. 16, dated 18th January, issued by this office, the British Admiralty has given further notice (No. 7 of 1898) that on 7th December 1897, a fourth order, group-flashing light, with a period of thirty seconds, showing two flashes in quick succession in each group, was exhibited from Jang point, Linga island.

Approximate position on Chart No. 1789, lat. $0^{\circ} 14\frac{1}{2}'$ S., long. $104^{\circ} 57\frac{1}{2}'$ E.

B. P. CREAGH, Comdr., R.I.M.,
Port Officer of Calcutta.

Published for general information.

CALCUTTA, the 31st January 1898.

T. H. CLOWES,
Under-Secretary, Marine Department.



APPENDIX TO

The Calcutta Gazette.

WEDNESDAY, FEBRUARY 23, 1898.

NOTICES TO MARINERS.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 40.

[First Publication.]

EASTERN ARCHIPELAGO—OBLEPES, SOUTH COAST.

Sunken rock south-westward of Cape Bulu Bulu.

THE British Admiralty has given notice (No. 22 of 1898) that the Master of the Netherlands Indies steam-vessel *Japara* reports the existence of an isolated rock, with a depth of 16 feet on it, situated about one mile off shore in a position with Malasoro point in line with Jeneponto head bearing about W. by N. $\frac{1}{2}$ N.; and point Petang about N.E. $\frac{1}{2}$ E.

Approximate position, lat. $6^{\circ} 42' 50''$ S., long. $119^{\circ} 44' 25''$ E.

(Variation 3° Easterly in 1898.)

H. LINDQUIST,
for Port Officer of Calcutta.

Published for general information.

CALCUTTA, the 15th February 1898.

T. H. CLOWES,
Under-Secretary, Marine Department.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 41.

[First Publication.]

EASTERN ARCHIPELAGO—LOMBOK.

Light at Ampenan.

THE British Admiralty has given notice (No. 23 of 1898) that, on 5th January 1898, a sixth order, fixed white light, elevated 41 feet above the sea, and visible 11 miles in clear weather, was shown from a white, frame-work, iron support, 42 feet in height, with the keeper's dwelling (white, red roof) adjoining, situated in a position bearing N.E. by N., distant 68 yards, from Ampenan flagstaff, west coast of Lombok.

Approximate position, lat. $8^{\circ} 34' 15''$ S., long. $116^{\circ} 3' 55''$ E.

(Variation 2° Easterly in 1898.)

H. LINDQUIST,
for Port Officer of Calcutta.

Published for general information.

CALCUTTA, the 15th February 1898.

T. H. CLOWES,
Under-Secretary, Marine Department.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 42.

[First Publication.]

PACIFIC OCEAN—PHILIPPINE ISLANDS—MINDANAO.

Iligan bay—Attended particulars of coral patch, eastward of point Bombon.

THE British Admiralty has given notice (No. 25 of 1898) that an examination has recently been made of the danger marked "Rocky bank," &c., about 12 miles eastward of point Bombon, west side of Iligan bay, with the undermentioned result:—

This patch, consisting of coral and white sand, is about 3 cables in length, north-west and south-east, within the 5-fathom line, and 2 cables broad, with a least depth of 16 feet on it, and soundings of upwards of 50 fathoms about a mile off around.

It is situated about 2½ miles, N.E. by N., from the position in which it has hitherto been shown on the charts, or approximately in lat. 8° 40' N., long. 123° 51' E.

(Variation 1° Easterly in 1898.)

H. LINDBQUIST,
for Port Officer of Calcutta.

Published for general information.

CALCUTTA, the 15th February 1898.

T. H. CLOWES,
Under-Secretary, Marine Department.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 43.

[First Publication.]

BAY OF BENGAL—BURMA COAST.

Light-vessel "Krishna" resumed her station.

IN continuation of Notice to Mariners No. 242, dated 16th December 1895, issued by this Office, a further telegraphic communication has been received from the Port Officer, Rangoon, stating that the Krishna shoal light-vessel has resumed her station exhibiting original light. The temporary light-vessel has been withdrawn.

B. P. O'BRIEN, Comdr., R.N.M.,
Port Officer of Calcutta.

Published for general information.

CALCUTTA, the 21st February 1898.

T. H. CLOWES,
Under-Secretary, Marine Department.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 44.

[First Publication.]

BAY OF BENGAL—BURMA COAST.

CAUTION—Position of wreck of steamer "Medusa."

A TELEGRAPHIC communication has been received from the Port Officer, Rangoon, stating that the Commander of the Royal Indian Marine steamer *Minto* reports that the wreck of the steamer *Medusa* lies sunk from 6 to 8 fathoms water bearing south 27° east true, from Table island light-house, distance 9 cables approximate, and 5 cables approximate from the shore; fore and after ends submerged, bridge above water, foremast standing. Mariners are warned accordingly.

B. P. O'BRIEN, Comdr., R.N.M.,
Port Officer of Calcutta.

Published for general information.

CALCUTTA, the 21st February 1898.

T. H. CLOWES,
Under-Secretary, Marine Department.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 45.

[First Publication.]

INDIAN OCEAN—MALACCA STRAITS.

A shoal not marked on Admiralty chart.

THE Master of the ship *Tinto Hill* reports the existence of a shoal not marked on Admiralty chart for Malacca Strait, number of chart being 1356, sheet No. 2, having small corrections up to 1st January 1896 and large corrections to December 1885. He also discovered a narrow strip of black sand about 50 fathoms long N.N.W. and S.S.E. (with sea birds picking on it) about a mile off; tacked ship to N. by E. ½ E. when the following bearings were taken:—"Parcelar Hill" E. ½ N., One fathom bank light-house N. ½ E. and the ridge

of sand forming shoal W. by S. $\frac{1}{2}$ S.; ship's head by standard compass N. by E. $\frac{1}{2}$ E.; error $2^{\circ} 26'$ easterly; tide flowing and setting S.E. by S. and running $2\frac{1}{2}$ knots, more or less. Immediately ship was heading off took east of the lead and had no bottom at 25 fathoms. Weather clear and fine. Wind variable.

B. P. OREASH, Comdr., R.I.M.,
Port Officer of Calcutta.

Published for general information.

CALCUTTA, the 21st February 1898.

T. H. CLOWES,
Under-Secretary, Marine Department.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 34.

[Second Publication.]

BAY OF BENGAL—ORISSA COAST.

New Elfin Fairway buoy shifted; and Dinga flat extended.

THE Port Officer, Chandbally, has given notice that the New Elfin Fairway buoy has been shifted 3,000 feet W. by N. of its former position into 10 feet reduced; flagstaff N. 70° W. from fairway buoy. There is now $1^{\circ} 9'$ on the New Elfin Bar.

The centre Elfin black buoy has been shifted 50 feet east of its former position into 5 feet reduced. Masters of vessels making the entrance of Balasore river via New Elfin channel should come in on a course of N. $40^{\circ} 30'$ W. magnetic from Fairway buoy transit marks. The new Elfin transit marks have been shifted from their former position on the bearing in line N. $40^{\circ} 30'$ W. The backing mark has been surmounted by a white globe as this shows up much better with the jungle forming a dark back ground.

The old channel is shoaling up, and there is now on the outer bar 6 inches, and the inner bar is dry at low water.

The Dinga flat has extended considerably and encroaches into the channel. Masters should keep well into the right bank as the flat is very steep, and should open Whoorguddi Beach slightly before crossing. Small bamboo marks have been erected for this purpose.

H. LINDBQUIST,
for Port Officer of Calcutta.

Published for general information.

CALCUTTA, the 9th February 1898.

T. H. CLOWES,
Under-Secretary, Marine Department.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 35.

[Second Publication.]

AUSTRALIA—PORT PHILLIP.

Lights exhibited in the river Yarra.

THE British Admiralty has given notice (No. 10 of 1898) that the undermentioned lights are exhibited in the river Yarra, in addition to those shown from the 4 gas buoys moored on the port side of the channel between the entrance and Williamstown steam ferry:—

1. A white light is shown from a beacon erected on the north (starboard) side of the entrance of the river; and a red light from a beacon on the south (port) side of the entrance. These replace the gas buoys previously moored in those positions.
Approximate position, white light, lat. $37^{\circ} 51' 15''$ S., long. $144^{\circ} 54' 40''$ E.
2. A white light, on the river bank nearly opposite Williamstown steam ferry, in a position with Sandridge (port Melbourne) Railway pier lighthouse bearing S. 85° E., distant $15\frac{1}{2}$ cables; and State school, North Williamstown, S. 9° W.
3. Eight white lights on the same bank of the river as light (2), situated respectively on the following bearings and distances from that light:—
 - a. N. by W. $\frac{1}{2}$ W., distant $2\frac{3}{4}$ cables; close to the bank.
 - b. N. by W. $\frac{1}{4}$ W., distant 4 cables; close to the bank.
 - c. N. $\frac{1}{2}$ W., distant $5\frac{1}{2}$ cables; close to the bank.
 - d. N. $\frac{1}{4}$ W., distant 7 cables; close to the bank.
 - e. N. $\frac{1}{2}$ E., distant $8\frac{1}{2}$ cables; at the extremity of the southern timber jetty.
 - f. N. $\frac{1}{4}$ E., distant $9\frac{1}{2}$ cables; at the extremity of the northern timber jetty.
 - g. N. by E. $\frac{1}{4}$ E., distant $11\frac{1}{2}$ cables; at the west end of the sheet piling.
 - h. N. E. $\frac{1}{2}$ N., distant $18\frac{1}{2}$ cables; on the bank, nearly opposite the Harbour Trust workshops.

4. A red light on the north side of the entrance to Stony creek, in a position with the centre of the Cement works, on the south side of Stony creek, bearing W. by N. $\frac{1}{2}$ N., distant 2 cables; and centre of Smelting works N. by E. $\frac{1}{2}$ E.
5. A red light on the east side of the entrance to Saltwater river, in a position with centre of Smelting works bearing W. $\frac{1}{2}$ N., distant $1\frac{1}{2}$ cables; and extremity of northern timber jetty S.S.W. $\frac{1}{2}$ W.
6. Two white lights on the same bank as light (5), on the following bearings and distances from that light:—
 - a. N. E. by E. $\frac{1}{2}$ E., distant 3 cables; close to the bank.
 - b. N. E. by E. $\frac{1}{2}$ E., distant 6 cables; close to the bank.
 - c. A red light, in a position bearing E. by N. $\frac{1}{2}$ N., distant $9\frac{1}{2}$ cables; from light (5); and at the extremity of the point eastward of the Harbour Trust workshops.

(Variation 8° Easterly in 1898.)

H. LINDBQUIST,
for Port Officer of Calcutta.

Published for general information.

CALCUTTA, the 11th February 1898.

T. H. CLOWES,
Under-Secretary, Marine Department.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 36.

[Second Publication.]

BAY OF BENGAL—BURMA COAST.

Gulf of Martaban—Buoy westward of Balugyun and Goodwin sands, Moulmein approach.

THE British Admiralty has given notice (No. 12 of 1898) that the undermentioned buoys have been placed westward of Balugyun and Goodwin sands:—

1. A can buoy, painted black and numbered 1, moored on the north side of the entrance to the buoyed channel through Balugyun sands, in a position with conspicuous tree on south coast of Balugyun bearing N.N.E. $\frac{1}{2}$ E., distant $2\frac{1}{2}$ miles; and Wai gyee Chaung beacon E. by S. $\frac{1}{2}$ S.

Approximate position on Plan No. 1845, lat. $16^{\circ} 12' 5''$ N., long. $97^{\circ} 29' 5''$ E.

2. A conical buoy, painted red, numbered 1 and surmounted by a pole and basket, moored on the south side of the entrance to the buoyed channel through Balugyun sands, in a position with Balugyun conspicuous tree bearing N. by E. $\frac{1}{2}$ E., distant $2\frac{1}{2}$ miles; and Wai gyee Chaung beacon E. by S. $\frac{1}{2}$ S.
3. A conical buoy, painted red and named Balugyun sand buoy, moored in a position with Balugyun conspicuous tree bearing N. $\frac{1}{2}$ E., distant $4\frac{1}{2}$ miles; and Wai gyee Chaung beacon E. $\frac{1}{2}$ S.
4. A conical buoy, painted red and named Goodwin sand buoy, moored in a position with Balugyun conspicuous tree bearing N. $\frac{1}{2}$ E., distant $6\frac{1}{2}$ miles; and Wai gyee Chaung beacon E. by N. $\frac{1}{2}$ N.

NOTE.—The buoy moored on the western side of the Patch, about W. by N. $\frac{1}{2}$ N. from Amherst point, is now a conical buoy, painted red and surmounted by pole and basket.

CAUTION.—The channel north of Balugyun sand is marked with red buoys on the south side and black buoys on the north side. As stated on the chart, this is the only available channel, but it has not been surveyed. Pilots are necessary and can be obtained at Amherst.

(Variation 3° Easterly in 1898.)

H. LINDBQUIST,
for Port Officer of Calcutta.

Published for general information.

CALCUTTA, the 11th February 1898.

T. H. CLOWES,
Under-Secretary, Marine Department.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 37.

[Second Publication.]

JAPAN—NIPPON.

Azumai peninsula—Oyama light discontinued.

THE British Admiralty has given notice (No. 14 of 1898) that Oyama light (fixed red), which was discontinued (temporarily) in 1895, has not since appeared in the Japanese Light List, and it has consequently been removed from the Admiralty publications.

Approximate position, lat. $34^{\circ} 35' 30''$ N., long. $137^{\circ} 9' 0''$ E.

H. LINDBQUIST,
for Port Officer of Calcutta.

Published for general information.

CALCUTTA, the 11th February 1898.

T. H. CLOWES,
Under-Secretary, Marine Department.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 38.

[Second Publication.]

BAY OF BENGAL—CHITTAGONG COAST.

Chittagong river—Depth of water found in the channels.

THE Port Officer, Chittagong, has given notice that the following depth of water was found in the river channels by soundings taken on the 7th February and reduced to zero:—

	Ft.	In.
<i>Track No. I—Outer bar—</i>		
Disc in the centre of Diamond and the Tripod cask and buoy	11	3
Disc on Tripod cask and ball	10	0
<i>Track No. II—Inner bar—</i>		
Disc on Diamond	10	6
Disc on Tripod cask and ball	10	0
<i>Track No. III—</i>		
Tripod on cross and ball...	19	0
<i>Track No. IV—</i>		
Triangle on tripod, cask and ball	20	0
<i>Track No. V—Guptakhally crossing—</i>		
Old marks	16	0
Centre	16	0
Tripod on diamond	15	0

H. LINDQUIST,
for Port Officer of Calcutta.

Published for general information.

T. H. CLOWES,
Under-Secretary, Marine Department.

CALCUTTA, the 11th February 1898.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 39.

[Second Publication.]

BAY OF BENGAL—ORISSA COAST.

Outer western Ridge buoy replaced in position.

WITH reference to Notice to Mariners No. 20, dated 25th ultimo, issued by this office, the Port Officer, False Point, has given further notice that the outer western Ridge buoy has been replaced in position; and the 5th class flat-topped buoy withdrawn.

H. LINDQUIST,
for Port Officer of Calcutta.

Published for general information.

T. H. CLOWES,
Under-Secretary, Marine Department.

CALCUTTA, the 14th February 1898.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 33.

[Third Publication.]

AUSTRALIA—NORTH BARNARD ISLANDS.

A new sixth order flashing light exhibited.

THE Portmaster, Brisbane, has given notice (No. 23 of 1897) that a 6th Order Double Flashing White Light is now exhibited from the summit of the South-eastern Island of the North Barnards, the focal plane being at an altitude of 292 feet above high water level.

The light is visible in clear weather at a distance of 16 miles, seaward, between the bearings of approximately N. $\frac{1}{2}$ E. and S.E. $\frac{1}{2}$ E. and shows a double flash every 10 seconds.

The structure is 10 feet high and consists of a circular lantern erected on a concrete base and painted white.

In the event of accident to the electric motor or flashing apparatus a small fixed light will be exhibited.

Geographical position (approx.):—Lat. 17° 40' 45" S., Long. 146° 12' 45" E.: From Admiralty Chart.

Chart affected, No. 2349.

Australia Directory, Vol. II., page 317.

B. P. CEECH, Comdr., R.N.M.,
Port Officer of Calcutta.

Published for general information.

T. H. CLOWES,
Under-Secretary, Marine Department.

CALCUTTA, the 2nd February 1898.



APPENDIX TO

The Calcutta Gazette.

WEDNESDAY, MARCH 2, 1898.

NOTICES TO MARINERS.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 48.

[First Publication.]

AUSTRALIA—BRISBANE RIVER.

Increased depth of water in the dredged channels of the Brisbane river, and corresponding alteration of Tide signals from the Pile light-house.

THE Port Master, Brisbane, has given notice (No. 1 of 1898) that, on and after the 16th instant, the available depth in the dredged cuttings of the Brisbane River will be 16 feet at low water.

Tide signals will be made from the Pile Light-house in accordance with the following amended code:—

Day Signals.	Depth in Cutting (Feet).	Night Signals.
Flag East ...	16	White East.
Flag West ...	16½	White West.
Ball East ...	17	Red East.
Ball West ...	17½	Red West.
Cone East ...	18	Green East.
Cone West ...	18½	Green West.
Inverted cone East ...	19	White East, red West.
Inverted cone West ...	19½	White West, red East.
Ball East, cone West ...	20	Red East, green West.
Ball West, cone East ...	20½	Red West, green East.
Ball East, inverted cone West ...	21	Green East, white West.
Ball West, inverted cone East ...	21½	Green West, white East.
Cone East, inverted cone West ...	22	White East, white West.
Cone West, inverted cone East ...	22½	Red East, red West.
Cone East, cone West ...	23	Green East, green West.
Inverted cone East, inverted cone West ...	23½	Two White vertical West.
Ball East, ball West ...	24	Red over white West.
Flag East, flag West ...	24½	Green over white West.

It will be noted that no alteration is to be made in the arrangement of the symbols, the changes made being in the depth corresponding to each signal.

B. P. CREAGH, Comdr., R.N.,
Port Officer of Calcutta.

Published for general information.

T. H. CLOWES,
Under-Secretary, Marine Department.

CALCUTTA, the 23rd February 1898.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 47.

[First Publication.]

AUSTRALIA.

New Caledonian submarine cable.

THE Portmaster, Brisbane, has given notice (No. 2 of 1898) that, in connection with the repairs to this Cable, there are now two buoys, surmounted with Flag and Staff, laid in the following positions, viz. :—

First—

Latitude $24^{\circ} 17' 15''$ South.Longitude $153^{\circ} 12'$ East.

Second—

Latitude $24^{\circ} 17'$ South.Longitude $153^{\circ} 15' 15''$ East.

From the first of these positions Lady Elliott Island bears W. by N. $\frac{1}{2}$ N., $26\frac{1}{2}$ miles.

B. P. CREAGH, Comdr., R.N.M.,

Port Officer of Calcutta.

Published for general information.

T. H. CLOWES,

Under-Secretary, Marine Department.

CALCUTTA, the 23rd February 1898.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 48.

[First Publication.]

AUSTRALIA—BRISBANE RIVER.

Rescinding Notice to Mariners No. 1 of 1898.

THE Portmaster, Brisbane, has given notice (No. 3 of 1898) that Notice to Mariners, No. 1 of 1898, dealing with the Tide Signals in connection with increased depth of the Brisbane river, is rescinded.

B. P. CREAGH, Comdr., R.N.M.,

Port Officer of Calcutta.

Published for general information.

T. H. CLOWES,

Under-Secretary, Marine Department.

CALCUTTA, the 23rd February 1898.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 49.

[First Publication.]

AUSTRALIA—CLEVELAND BAY.

A small light near the Quarantine Station jetty.

THE Portmaster, Brisbane, has given notice (No. 4 of 1898) that a small white light is now exhibited from a platform situated near the Quarantine Station Jetty, Cleveland bay, to enable vessels to pick up the deepwater anchorage with greater facility.

The light is visible between the bearings of N. 73° E. and N. 34° E., being screened to mark the No. 2 Black Buoy and the Cage Buoy.

B. P. CREAGH, Comdr., R.N.M.,

Port Officer of Calcutta.

Published for general information.

T. H. CLOWES,

Under-Secretary, Marine Department.

CALCUTTA, the 23rd February 1898.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 50.

[First Publication.]

AUSTRALIA—PRINCE OF WALES CHANNEL.

Beacon on Ipili Reef blown down.

THE Portmaster, Brisbane, has given notice (No. 5 of 1898) that the Beacon on Ipili Reef, Prince of Wales Channel, has been blown down. The beacon will be restored as soon as possible, due notice of which will be given.

Charts affected, Nos. 2354 and 691.

Australia Directory, volume 2, page 481.

B. P. CREAGH, Comdr., R.N.M.,

Port Officer of Calcutta.

Published for general information.

T. H. CLOWES,

Under-Secretary, Marine Department.

CALCUTTA, the 23rd February 1898.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 51.

[First Publication.]

BAY OF BENGAL—SANDHEADS—HOOGHLY RIVER.

Pilot's Ridge light-ship placed in position.

THE Deputy Conservator of the Port, Calcutta, has given notice that the Pilot's Ridge light-ship, which is now placed in position from the 15th March to the 31st October, inclusive, will, from the 1st November next, remain in position the whole year.

There will be no blue light burnt between the 1st November and the 14th March.

B. P. CERRAGH, Comdr., R.N.,
Port Officer of Calcutta.

Published for general information.

T. H. CLOWES,
Under-Secretary, Marine Department.

CALCUTTA, the 23rd February 1898.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 52.

[First Publication.]

BAY OF BENGAL—HOOGHLY RIVER—GASPER CHANNEL.

A flashing light instead of a fixed white light.

THE Deputy Conservator of the Port, Calcutta, has given notice that the fixed white light now exhibited from the Lower Gasper lightship will be discontinued from the 31st October next.

In place thereof this lightship will display, on and after the 1st November next, a flashing light in the following periods:—A flash of 10 seconds, an eclipse of 10 seconds; a flash of 10 seconds and a dark interval of 30 seconds.

The blue lights will be shown as notified.

B. P. CERRAGH, Comdr., R.N.,
Port Officer of Calcutta.

Published for general information.

T. H. CLOWES,
Under-Secretary, Marine Department.

CALCUTTA, the 23rd February 1898.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 53.

[First Publication.]

CHINA, EAST COAST—HAI TAN STRAIT.

Leading beacons on Pass and Slut islands.

THE British Admiralty has given notice (No. 45 of 1898) that the undermentioned leading beacons have been erected in Hai tan strait, to assist in the navigation of the Narrows:—

1. Two beacons on the north-eastern slope of Pass island, bearing when in line S. 20½° E.

Each beacon is surmounted by a diamond-shaped top-mark, the northern with a white field and central part black; the southern with a black field and central part white.

Approximate position, Pass island, lat. 25° 27½' N., long. 119° 39½' E.

2. Two beacons on the south-eastern slope of Slut island, bearing when in line N. 8½° W.

Each beacon is surmounted by a triangular top-mark, painted white with a vertical, black stripe in the middle; the triangle on the northern beacon is placed base upwards, on the southern base downwards.

Approximate position, Slut island, lat. 25° 40½' N., long. 119° 37' E.

NOTE.—Soundings, obtained in a recent survey, show that vessels proceeding northward should keep the Pass island beacons in line, astern, bearing S. 20½° E., from a position with Moon hill in line with Tyna Yung shan peak, bearing W. ½ S., until the southern end of the Middle Rocky island is in line with a fort on the west shore, bearing W. by N. ½ N.; then steer course to the northward to pass about 3 cables eastward of Black rocks. The least water passed over by following these directions will be a depth of 15 feet at lowest springs, situated about 3½ miles from Pass island.

Proceeding northward, the beacons on Blat island should be brought in line, bearing N. $8\frac{1}{2}^{\circ}$ W., when Inner rock bears East, and should be kept in line, leading well clear of all known dangers, until Mitre rock bears West.

(Variation 1° Westerly in 1898.)

B. P. CREAGH, Comdr., R.I.M.,
Port Officer of Calcutta.

Published for general information.

T. H. CLOWES,
Under-Secretary, Marine Department.

CALCUTTA, the 23rd February 1898.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 54.

[First Publication.]

NEW ZEALAND—SOUTH ISLAND.

Westport—Alterations in lights and night tidal signals.

THE British Admiralty has given notice (No. 48 of 1898) that on 1st January 1898, the harbour lights and night tidal signals, hitherto shown at Westport, would be replaced by the undermentioned lights and signals:—

1. The *white* harbour light, shown from the flagstaff on the western breakwater, without any additional signal, indicates:—Wait.
2. A *red* light under the *white* harbour light, indicates:—Bar unsafe.
3. A *green* light over the *white* harbour light, indicates:—Bar safe for vessels of 9 feet draught.
4. A *green* light under the *white* harbour light, indicates:—Bar safe for vessels of $11\frac{1}{2}$ feet draught.
5. A *white* light under the *white* harbour light, indicates:—Bar safe for vessels of 14 feet draught.
6. Two *red* lights are shown, as fairway lights, from the beacons on the west side of the harbour within the breakwaters; the front beacon is painted white, the rear beacon, white with a red band.

These lights, when in line, bear S. by E. $\frac{1}{2}$ E., and they should be kept in line over the bar and between the breakwaters, until the *two red* lights, shown from beacons on the western breakwater, are in line, bearing N. W. by N., when these last lights should be kept in line astern, up the river to the wharves.

7. The *white* harbour light is always shown; the *red* fairway lights are not shown when the bar is unsafe.

B. P. CREAGH, Comdr., R.I.M.,
Port Officer of Calcutta.

Published for general information.

T. H. CLOWES,
Under-Secretary, Marine Department.

CALCUTTA, the 23rd February 1898.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 55.

[First Publication.]

BAY OF BENGAL—MADRAS COAST.

CAUTION.—Position of a submerged wreck.

A TELEGRAPHIC communication has been received from the Presidency Port Officer, Madras, stating that the Commander of the *Nawab* reports having passed a submerged wreck with mast visible in Lat. $19^{\circ} 26'$, North Long. $86^{\circ} 11'$ East. Mariners are warned accordingly.

B. P. CREAGH, Comdr., R.I.M.,
Port Officer of Calcutta.

Published for general information.

T. H. CLOWES,
Under-Secretary, Marine Department.

CALCUTTA, the 26th February 1898.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 40.

[Second Publication.]

EASTERN ARCHIPELAGO—CELEBES, SOUTH COAST.

Sunken rock south-westward of Cape Dulu Dulu.

THE British Admiralty has given notice (No. 22 of 1898) that the Master of the Netherlands Indies steam-vessel *Japara* reports the existence of an isolated rock, with a depth of 16 feet on it, situated about one mile off shore in a position with Malasoro point in line with Jenepono head bearing about W. by N. $\frac{1}{2}$ N.; and point Petang about N.E. $\frac{1}{2}$ E.

Approximate position, lat. $5^{\circ} 42' 50''$ S., long. $119^{\circ} 44' 25''$ E.

(Variation 8° Easterly in 1898.)

H. LINDQUIST,
for Port Officer of Calcutta.

Published for general information.

CALCUTTA, the 15th February 1898.

T. H. CLOWES,
Under-Secretary, Marine Department.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 41.

[Second Publication.]

EASTERN ARCHIPELAGO—LOMBOK.

Light at Ampenan.

THE British Admiralty has given notice (No. 23 of 1898) that, on 5th January 1898, a sixth order, fixed white light, elevated 41 feet above the sea, and visible 11 miles in clear weather, was shown from a white, frame-work, iron support, 42 feet in height, with the keeper's dwelling (white, red roof) adjoining, situated in a position bearing N.E. by N., distant 68 yards, from Ampenan flagstaff, west coast of Lombok.

Approximate position, lat. $8^{\circ} 34' 15''$ S., long. $116^{\circ} 3' 55''$ E.

(Variation 2° Easterly in 1898.)

H. LINDQUIST,
for Port Officer of Calcutta.

Published for general information.

CALCUTTA, the 15th February 1898.

T. H. CLOWES,
Under-Secretary, Marine Department.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 42.

[Second Publication.]

PACIFIC OCEAN—PHILIPPINE ISLANDS—MINDANAO.

Iligan bay—Amended particulars of coral patch, eastward of point Bombon.

THE British Admiralty has given notice (No. 25 of 1898) that an examination has recently been made of the danger marked "Rocky bank," &c., about 12 miles eastward of point Bombon, west side of Iligan bay, with the undermentioned result:—

This patch, consisting of coral and white sand, is about 3 cables in length, north-west and south-east, within the 5-fathom line, and 2 cables broad, with a least depth of 16 feet on it, and soundings of upwards of 50 fathoms about a mile off around.

It is situated about $2\frac{1}{2}$ miles, N.E. by N., from the position in which it has hitherto been shown on the charts, or approximately in lat. $8^{\circ} 40' N.$, long. $123^{\circ} 51' E.$

(Variation 1° Easterly in 1898.)

H. LINDQUIST,
for Port Officer of Calcutta.

Published for general information.

CALCUTTA, the 15th February 1898.

T. H. CLOWES,
Under-Secretary, Marine Department.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 43.

[Second Publication.]

BAY OF BENGAL—BURMA COAST.

Light-vessel "Krishna" resumed her station.

IN continuation of Notice to Mariners No. 242, dated 16th December 1896, issued by this Office, a further telegraphic communication has been received, from the Port Officer, Rangoon, stating that the Krishna shoal light-vessel has resumed her station exhibiting original light. The temporary light-vessel has been withdrawn.

B. P. ORRACH, Comdr., R.I.M.,
Port Officer of Calcutta.

Published for general information.

T. H. CLOWES,

Under-Secretary, Marine Department.

CALCUTTA, the 21st February 1898.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 44.

[Second Publication.]

BAY OF BENGAL—BURMA COAST.

CAUTION—Position of wreck of steamer "Medusa."

A TELEGRAPHIC communication has been received from the Port Officer, Rangoon, stating that the Commander of the Royal Indian Marine steamer *Minto* reports that the wreck of the steamer *Medusa* lies sunk from 6 to 8 fathoms water bearing south 27° east, true, from Table island light-house, distance 9 cables approximate, and 5 cables approximate from the shore; fore and after ends submerged, bridge above water, foremast standing. Mariners are warned accordingly.

B. P. ORRACH, Comdr., R.I.M.,
Port Officer of Calcutta.

Published for general information.

T. H. CLOWES,

Under-Secretary, Marine Department.

CALCUTTA, the 21st February 1898.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 45.

[Second Publication.]

INDIAN OCEAN—MALACCA STRAITS.

A shoal not marked on Admiralty chart.

THE Master of the ship *Tinto Hill* reports the existence of a shoal not marked on Admiralty chart for Malacca Strait, number of chart being 1355, sheet No. 2, having small corrections up to 1st January 1896 and large corrections to December 1885. He also discovered a narrow strip of black sand about 50 fathoms long N.N.W. and S.S.E. (with sea birds picking on it) about a mile off; tacked ship to N. by E. $\frac{1}{2}$ E. when the following bearings were taken:—"Paroelal Hill" E. $\frac{1}{2}$ N., One fathom bank light-house N. $\frac{1}{2}$ E. and the ridge of sand forming shoal W. by S. $\frac{1}{2}$ S.; ship's head by standard compass N. by E. $\frac{1}{2}$ E.; error 2° 26' easterly; tide flowing and setting S.E. by S. and running 2½ knots, more or less. Immediately ship was heading off took cast of the lead and had no bottom at 25 fathoms. Weather clear and fine. Wind variable.

B. P. ORRACH, Comdr., R.I.M.,
Port Officer of Calcutta.

Published for general information.

T. H. CLOWES,

Under-Secretary, Marine Department.

CALCUTTA, the 21st February 1898.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 34.

[Third Publication.]

BAY OF BENGAL—ORISSA COAST.

New Elfin Fairway buoy shifted; and Dinga flat extended.

THE Port Officer, Chandbally, has given notice that the New Elfin Fairway buoy has been shifted 3,000 feet W. by N. of its former position into 10 feet reduced; flagstaff N. 70° W. from fairway buoy. There is now 1' 9" on the New Elfin Bar.

The centre Elfin black buoy has been shifted 50 feet east of its former position into 5 feet reduced. Masters of vessels making the entrance of Balasore river *via* New Elfin channel should come in on a course of N. 40° 30' W. magnetic from Fairway buoy transit

marks. The new Eln transit marks have been shifted from their former position on the bearing in line N. $40^{\circ} 30'$ W. The backing mark has been surmounted by a white globe as this shows up much better with the jungle forming a dark back ground.

The old channel is shoaling up, and there is now on the outer bar 6 inches, and the inner bar is dry at low water.

The Dinga flat has extended considerably and encroaches into the channel. Masters should keep well into the right bank as the flat is very steep, and should open Whoorguddi Reach slightly before crossing. Small bamboo marks have been erected for this purpose.

H. LINDQUIST,
for Port Officer of Calcutta.

Published for general information.

CALCUTTA, the 9th February 1898.

T. H. CLOWES,
Under-Secretary, Marine Department.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 35.

[Third Publication.]

AUSTRALIA—PORT PHILLIP.

Lights exhibited in the river Yarra.

THE British Admiralty has given notice (No. 10 of 1895) that the undermentioned lights are exhibited in the river Yarra, in addition to those shown from the 4 gas buoys moored on the port side of the channel between the entrance and Williamstown steam ferry:—

1. A *white* light is shown from a beacon erected on the north (starboard) side of the entrance of the river; and a *red* light from a beacon on the south (port) side of the entrance. These replace the *gas* buoys previously moored in those positions.

Approximate position, white light, lat. $37^{\circ} 51' 15''$ S., long. $144^{\circ} 54' 40''$ E.

2. A *white* light, on the river bank nearly opposite Williamstown steam ferry, in a position with Sandridge (port Melbourne) Railway pier lighthouse bearing S. 85° E., distant $15\frac{1}{2}$ cables; and State school, North Williamstown, S. 9° W.
3. Eight *white* lights on the same bank of the river as light (2), situated respectively on the following bearings and distances from that light:—
 - a. N. by W. $\frac{1}{2}$ W., distant $2\frac{3}{4}$ cables; close to the bank.
 - b. N. by W. $\frac{1}{4}$ W., distant 4 cables; close to the bank.
 - c. N. $\frac{1}{2}$ W., distant $5\frac{1}{2}$ cables; close to the bank.
 - d. N. $\frac{1}{4}$ W., distant 7 cables; close to the bank.
 - e. N. $\frac{1}{4}$ E., distant $8\frac{1}{2}$ cables; at the extremity of the southern timber jetty.
 - f. N. $\frac{1}{2}$ E., distant $9\frac{1}{4}$ cables; at the extremity of the northern timber jetty.
 - g. N. by E. $\frac{1}{4}$ E., distant $11\frac{1}{4}$ cables; at the west end of the sheet piling.
 - h. N. E. $\frac{1}{2}$ N., distant $18\frac{1}{2}$ cables; on the bank, nearly opposite the Harbour Trust workshops.
4. A *red* light on the north side of the entrance to Stony creek, in a position with the centre of the Cement works, on the south side of Stony creek, bearing W. by N. $\frac{1}{2}$ N., distant 2 cables; and centre of Smelting works N. by E. $\frac{1}{2}$ E.
5. A *red* light on the east side of the entrance to Saltwater river, in a position with centre of Smelting works bearing W. $\frac{1}{2}$ N., distant $1\frac{1}{2}$ cables; and extremity of northern timber jetty S.S.W. $\frac{1}{2}$ W.
6. Two *white* lights on the same bank as light (5), on the following bearings and distance from that light:—
 - a. N. E. by E. $\frac{1}{4}$ E., distant 3 cables; close to the bank.
 - b. N. E. by E. $\frac{1}{2}$ E., distant 6 cables; close to the bank.
 - c. A *red* light, in a position bearing E. by N. $\frac{1}{4}$ N., distant $9\frac{1}{2}$ cables; from light (5); and at the extremity of the point eastward of the Harbour Trust workshops.

(Variation 8° Easterly in 1898.)

H. LINDQUIST,
for Port Officer of Calcutta.

Published for general information.

CALCUTTA, the 11th February 1898.

T. H. CLOWES,
Under-Secretary, Marine Department.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 86.

[Third Publication.]

BAY OF BENGAL—BURMA COAST.

Gulf of Martaban—Buoys westward of Balugyun and Goodwin sands, Moulmein approach.

THE British Admiralty has given notice (No. 12 of 1898) that the undermentioned buoys have been placed westward of Balugyun and Goodwin sands:—

1. A conical buoy, painted black and numbered 1, moored on the north side of the entrance to the buoyed channel through Balugyun sands, in a position with conspicuous tree on south coast of Balugyun bearing N.N.E. $\frac{1}{2}$ E., distant $2\frac{1}{2}$ miles; and Wai gye Chaung beacon E. by S. $\frac{1}{2}$ S.

Approximate position on Plan No. 1845, lat. $16^{\circ} 12' 5''$ N., long. $97^{\circ} 29' 5''$ E.

2. A conical buoy, painted red, numbered 1 and surmounted by a pole and basket, moored on the south side of the entrance to the buoyed channel through Balugyun sands, in a position with Balugyun conspicuous tree bearing N. by E. $\frac{1}{2}$ E., distant $2\frac{1}{2}$ miles; and Wai gye Chaung beacon E. by S. $\frac{1}{2}$ S.
3. A conical buoy, painted red and named Balugyun sand buoy, moored in a position with Balugyun conspicuous tree bearing N. $\frac{1}{2}$ E., distant $4\frac{1}{2}$ miles; and Wai gye Chaung beacon E. $\frac{1}{2}$ S.
4. A conical buoy, painted red and named Goodwin sand buoy, moored in a position with Balugyun conspicuous tree bearing N. $\frac{1}{2}$ E., distant $6\frac{1}{2}$ miles; and Wai gye Chaung beacon E. by N. $\frac{1}{2}$ N.

NOTE.—The buoy moored on the western side of the Patch, about W. by N. $\frac{1}{2}$ N. from Amherst point, is now a conical buoy, painted red and surmounted by pole and basket.

CAUTION.—The channel north of Balugyun sand is marked with red buoys on the south side and black buoys on the north side. As stated on the chart, this is the only available channel, but it has not been surveyed. Pilots are necessary and can be obtained at Amherst.

(Variation 5° Easterly in 1898.)

H. LINDQUIST,
for Port Officer of Calcutta.

Published for general information.

CALCUTTA, the 11th February 1898.

T. H. CLOWES,
Under-Secretary, Marine Department.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 87.

[Third Publication.]

JAPAN—NIXON.

Atsumi peninsula—Oyama light discontinued.

THE British Admiralty has given notice (No. 14 of 1898) that Oyama light (faded red), which was discontinued (temporarily) in 1895, has not since appeared in the Japanese Light List, and it has consequently been removed from the Admiralty publications.

Approximate position, lat. $34^{\circ} 35' 30''$ N., long. $137^{\circ} 9' 0''$ E.

H. LINDQUIST,
for Port Officer of Calcutta.

Published for general information.

CALCUTTA, the 11th February 1898.

T. H. CLOWES,
Under-Secretary, Marine Department.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 88.

[Third Publication.]

BAY OF BENGAL—CHITTAGONG COAST.

Chittagong river—Depth of water found in the channels.

THE Port Officer, Chittagong, has given notice that the following depth of water was found in the river channels by soundings taken on the 7th February and reduced to zero:—

	Ft.	In.
<i>Track No. I—Outer bar—</i>		
Disc in the centre of Diamond and the Tripod cask and buoy	11	3
Disc on Tripod cask and ball	10	0
<i>Track No. II—Inner bar—</i>		
Disc on Diamond	10	6
Disc on Tripod cask and ball	10	0

APPENDIX TO THE CALCUTTA GAZETTE, MARCH 2, 1898.

69

					Ft.	In.
Track No. III—						
Tripod on cross and ball ...	...	...	d	...	19	0
Track No. IV—						
Triangle on tripod, oak and ball	...	...		...	20	0
Track No. V—Guptakhally crossing—						
Old marks ...	...	...	...	...	16	0
Centre ...	...	...	...	...	16	0
Tripod on diamond ...	...	...	...	...	15	0

H. LANDQUIST,
for Port Officer of Calcutta.
Published for general information.

CALCUTTA, the 11th February 1898.

T. H. CLOWES,
Under-Secretary, Marine Department.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 39.

[Third Publication.]

BAY OF BENGAL—ORISSA COAST.

Outer western Ridge buoy replaced in position.

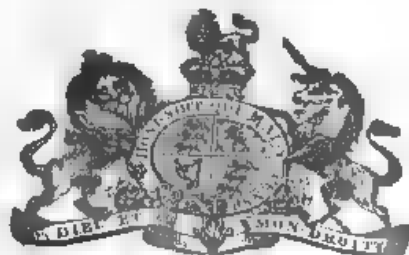
With reference to Notice to Mariners No. 20, dated 25th ultimo, issued by this office, the Port Officer, False Point, has given further notice that the outer western Ridge buoy has been replaced in position; and the 5th class flat-topped buoy withdrawn.

H. LANDQUIST,
for Port Officer of Calcutta.

Published for general information.

CALCUTTA, the 14th February 1898.

T. H. CLOWES,
Under-Secretary, Marine Department.



APPENDIX TO

The Calcutta Gazette.

WEDNESDAY, MARCH 9, 1898.

NOTICES TO MARINERS.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 56.

[First Publication.]

BAY OF BENGAL—BURMA COAST.

The "Medusa" first struck on a rock.

With reference to Notice to Mariners No. 44, dated the 21st February, issued by this office, the Port Officer, Rangoon, has given further notice that the Master of the steamer *Medusa* reports that that vessel first struck a rock two miles north-west of Table island before becoming a wreck in the position previously notified.

B. P. CREAGH, Comdr., R.I.M.,
Port Officer of Calcutta.

Published for general information.

T. H. CLOWES,
Under-Secretary, Marine Department.

CALCUTTA, the 1st March 1898.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 57.

[First Publication.]

AUSTRALIA, INNER ROUTE—HOWICK GROUP.

Sunken rock westward of Houghton island.

The British Admiralty has given notice (No. 58 of 1898) of the existence of a rock, with a depth of 18 feet on it at low water springs, situated in a position with Howick island summit (206) bearing about N. 65° E., distant 2½ miles; and western extreme of Howick island N. 7° W.

Approximate position, lat. 14° 31' 20" S., long. 144° 57' 10" E.

(Variation 6° Easterly in 1898.)

B. P. CREAGH, Comdr., R.I.M.,
Port Officer of Calcutta.

Published for general information.

T. H. CLOWES,
Under-Secretary, Marine Department.

CALCUTTA, the 3rd March 1898.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 53.

[First Publication.]

CELEBES, EAST COAST—GULF OF TOMINI.

Coral patch eastward of Silabian point.

THE British Admiralty has given notice (No. 54 of 1898) of the existence of a very small patch of sand and coral, with a depth of 3 feet on it, and no bottom at 70 fathoms close to all round, situated in a position about 3 miles eastward of Silabian point, or approximately in lat. $0^{\circ} 21' 0''$ N., long. $120^{\circ} 25' 45''$ E.

B. P. CREAGH, Comdr., R.I.M.,
Port Officer of Calcutta.

Published for general information.

T. H. CLOWES,

Under-Secretary, Marine Department.

CALCUTTA, the 3rd March 1898.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 50.

[First Publication.]

CEYLON, SOUTH-WEST COAST—POINT DE GALLE APPROACH.

Non-existence of Luna Horowa rock.

THE British Admiralty has given notice (No. 55 of 1898) that information has been received from the Master Attendant at Point de Galle, dated 22nd December 1897, that he recently examined the locality in which Luna Horowa rock has hitherto been shown on the Admiralty Charts, viz., bearing S.E. $\frac{1}{2}$ S., distant $1\frac{1}{2}$ miles, from Unawatti point, and found not less than 10 fathoms in that position.

The fishermen state that the name Horowa rock is applied to a 3-fathom patch, which lies about a cable south-westward of Bellows rock, and on which the sea breaks heavily in the South-west monsoon, and that no other shoal is known in the vicinity.

Luna Horowa rock (P. D.) has consequently been expunged from the Admiralty Charts, and the danger line has been extended one cable south-westward of Bellows rock.

Approximate position, Bellows rock, lat. $5^{\circ} 59' 45''$ N., long. $80^{\circ} 14' 30''$ E.

(Variation 1° Easterly in 1898.)

B. P. CREAGH, Comdr., R.I.M.,
Port Officer of Calcutta.

Published for general information.

T. H. CLOWES,

Under-Secretary, Marine Department.

CALCUTTA, the 3rd March 1898.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 60.

[First Publication.]

NEW ZEALAND, SOUTH ISLAND—AWARUA OR BLUFF HARBOUR.

Buoys marking area of blasting operations.

THE British Admiralty has given notice (No. 59 of 1898) that blasting operations are being carried on to remove Mid-channel rock, which is presumed to be the 19 feet rock situated in the entrance to Bluff harbour, about N. by W. $\frac{1}{2}$ W., distant $5\frac{1}{2}$ cables, from the eastern extreme of Stirling point.

The area of the works is defined by four red buoys, and all vessels should pass northward of these buoys.

A note to that effect has been placed on the plan of the entrance on Chart No. 2540.

Approximate position, lat. $46^{\circ} 36' 35''$ S., long. $168^{\circ} 22' 55''$ E.

(Variation 16° Easterly in 1898.)

B. P. CREAGH, Comdr., R.I.M.,
Port Officer of Calcutta.

Published for general information.

T. H. CLOWES,

Under-Secretary, Marine Department.

CALCUTTA, the 3rd March 1898.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 61.

[First Publication.]

CHINA, EAST COAST—HAI TAN STRAIT.

Rock in north entrance.

THE British Admiralty has given notice (No. 60 of 1898) that information has been received through the Board of Trade that, on 3rd October 1897, the steam-vessel *Namoa* struck on a rock, which is said to lie about half a mile westward of Brown rock, north entrance of Hai tan strait.

The symbol for a rock with less than 6 feet water on it, with the words "Namoa rock (pos' approx)" written against it, has been placed on the Admiralty Chart in approximately lat. $25^{\circ} 47' 10''$ N., long. $119^{\circ} 38' 55''$ E.

B. P. CREAGH, *Comdr., R.N.M.,*
Port Officer of Calcutta.

Published for general information.

T. H. CLOWES,
Under-Secretary, Marine Department.

CALCUTTA, the 3rd March 1898

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 62.

[First Publication.]

EASTERN ARCHIPELAGO—BULELENG (BELILING) ROAD.

Submarine telegraph cable moved eastward and light discontinued.

THE British Admiralty has given notice (No. 70 of 1898)—The Netherlands Government has given Notice, dated 26th January 1898, that the landing-place of the submarine telegraph cable in Buleleng (Beliling) road has been moved from the western to the eastern telegraph-cable house; and the prohibited anchorage is now further eastward than the white cone on the western angle of the western cable house in line with the white ball on the roof of that house. Consequently the red light, previously shown from the western cable house over the prohibited anchorage, has been discontinued; and the white cone, on the eastern angle of that house, has been withdrawn.

Approximate position, lat. $8^{\circ} 5' 45''$ S., long. $115^{\circ} 5' 0''$ E.

B. P. CREAGH, *Comdr., R.N.M.,*
Port Officer of Calcutta.

Published for general information.

T. H. CLOWES,
Under-Secretary, Marine Department.

CALCUTTA, the 3rd March 1898.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 46.

[Second Publication.]

AUSTRALIA—BRISBANE RIVER.

Increased depth of water in the dredged channels of the Brisbane river, and corresponding alteration of Tide signals from the Pile light-house.

THE Port Master, Brisbane, has given notice (No. 1 of 1898) that, on and after the 16th instant, the available depth in the dredged cuttings of the Brisbane River will be 18 feet at low water.

Tide signals will be made from the Pile Light-house in accordance with the following amended code:—

Day Signals.	Depth in Cutting (Feet).	Night Signals.
Flag East ...	16	White East.
Flag West ...	16½	White West.
Ball East ...	17	Red East.
Ball West ...	17½	Red West.
Cone East ...	18	Green East.
Cone West ...	18½	Green West.
Inverted cone East ...	19	White East, red West.
Inverted cone West ...	19½	White West, red East.
Ball East, cone West ...	20	Red East, green West.
Ball West, cone East ...	20½	Red West, green East.
Ball East, inverted cone West ...	21	Green East, white West.
Ball West, inverted cone East ...	21½	Green West, white East.
Cone East, inverted cone West ...	22	White East, white West.
Cone West, inverted cone East ...	22½	Red East, red West.
Cone East, cone West ...	23	Green East, green West.
Inverted cone East, inverted cone West ...	23½	Two White vertical West.
Ball East, ball West ...	24	Red over white West.
Flag East, flag West ...	24½	Green over white West.

It will be noted that no alteration is to be made in the arrangement of the symbols, the changes made being in the depth corresponding to each signal.

B. P. CREAGH, *Comdr., R.I.M.,*
Port Officer of Calcutta.

Published for general information.

T. H. CLOWES,
Under-Secretary, Marine Department.

CALCUTTA, the 23rd February 1898.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.

NOTICE TO MARINEERS—No. 47.

[Second Publication.]

AUSTRALIA.

New Caledonian submarine cable.

The Portmaster, Brisbane, has given notice (No. 2 of 1898) that, in connection with the repairs to this Cable, there are now two buoys, surmounted with Flag and Staff, laid in the following positions, viz.:—

First—

Latitude 24° 17' 15" South.
Longitude 153° 12' East.

Second—

Latitude 24° 17' South.
Longitude 153° 15' 15" East.

From the first of these positions Lady Elliott Island bears W. by N. $\frac{1}{2}$ N., 26½ miles.

B. P. CREAGH, *Comdr., R.I.M.,*
Port Officer of Calcutta.

Published for general information.

T. H. CLOWES,
Under-Secretary, Marine Department.

CALCUTTA, the 23rd February 1898.

APPENDIX TO THE CALCUTTA GAZETTE, MARCH 9, 1898.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 48.
[Second Publication.]

AUSTRALIA—BRISBANE RIVER.

Rescinding Notice to Mariners No. 1 of 1898.

THE Portmaster, Brisbane, has given notice (No. 3 of 1898) that Notice to Mariners, No. 1 of 1898, dealing with the Tide Signals in connection with increased depth of the Brisbane river, is rescinded.

B. P. CREAGH, Comdr., R.I.M.,
Port Officer of Calcutta.

Published for general information.

CALCUTTA, the 23rd February 1898.

T. H. CLOWES,
Under-Secretary, Marine Department.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 49.
[Second Publication.]

AUSTRALIA—CLEVELAND BAY.

A small light near the Quarantine Station jetty.

THE Portmaster, Brisbane, has given notice (No. 4 of 1898) that a small white light is now exhibited from a platform situated near the Quarantine Station Jetty, Cleveland bay, to enable vessels to pick up the deepwater anchorage with greater facility.

The light is visible between the bearings of N. 78° E. and N. 34° E., being screened to mark the No. 2 Black Buoy and the Cage Buoy.

B. P. CREAGH, Comdr., R.I.M.,
Port Officer of Calcutta.

Published for general information.

CALCUTTA, the 23rd February 1898.

T. H. CLOWES,
Under-Secretary, Marine Department.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 50.
[Second Publication.]

AUSTRALIA—PRINCE OF WALES CHANNEL.

Beacon on Ipili Reef blown down.

THE Portmaster, Brisbane, has given notice (No. 5 of 1898) that the Beacon on Ipili Reef, Prince of Wales Channel, has been blown down. The beacon will be restored as soon as possible, due notice of which will be given.

Charts affected, Nos. 2354 and 691.

Australia Directory, volume 2, page 431.

B. P. CREAGH, Comdr., R.I.M.,
Port Officer of Calcutta.

Published for general information.

CALCUTTA, the 23rd February 1898.

T. H. CLOWES,
Under-Secretary, Marine Department.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 51.
[Second Publication.]

BAY OF BENGAL—SANDHEADS—HOOGHLY RIVER.

Pilot's Ridge light-ship placed in position.

THE Deputy Conservator of the Port, Calcutta, has given notice that the Pilot's Ridge light-ship, which is now placed in position from the 15th March to the 31st October, inclusive, will, from the 1st November next, remain in position the whole year.

There will be no blue light burnt between the 1st November and the 14th March.

B. P. CREAGH, Comdr., R.I.M.,
Port Officer of Calcutta.

Published for general information.

CALCUTTA, the 23rd February 1898.

T. H. CLOWES,
Under-Secretary, Marine Department.

GOVERNMENT OF BENGAL,—MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 52.

[Second Publication.]

BAY OF BENGAL—HOOGHLY RIVER—GASPER CHANNEL.

A flashing light instead of a fixed white light.

THE Deputy Conservator of the Port, Calcutta, has given notice that the fixed white light now exhibited from the Lower Gasper lightship will be discontinued from the 31st October next.

In place thereof this lightship will display, on and after the 1st November next, a flashing light in the following periods:—A flash of 10 seconds, an eclipse of 10 seconds; a flash of 10 seconds and a dark interval of 30 seconds.

The blue lights will be shown as notified.

B. P. OREAGH, *Comdr., R.I.M.,*
Port Officer of Calcutta.

Published for general information.

CALCUTTA, the 23rd February 1898.

T. H. CLOWES,
Under-Secretary, Marine Department.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 53.

[Second Publication.]

CHINA, EAST COAST—HAI TAN STRAIT.

Leading beacons on Pass and Slut islands.

THE British Admiralty has given notice (No. 45 of 1898) that the undermentioned leading beacons have been erected in Hai tan strait, to assist in the navigation of the Narrows:—

1. Two beacons on the north-eastern slope of Pass island, bearing when in line S. $20\frac{1}{2}^{\circ}$ E.

Each beacon is surmounted by a diamond-shaped top-mark, the northern with a white field and central part black; the southern with a black field and central part white.

Approximate position, Pass island, lat. $25^{\circ} 27\frac{1}{2}'$ N., long. $119^{\circ} 39\frac{1}{2}'$ E.

2. Two beacons on the south-eastern slope of Slut island, bearing when in line N. $8\frac{1}{2}^{\circ}$ W.

Each beacon is surmounted by a triangular top-mark, painted white with a vertical, black stripe in the middle; the triangle on the northern beacon is placed base upwards, on the southern base downwards.

Approximate position, Slut island, lat. $25^{\circ} 40\frac{1}{2}'$ N., long. $119^{\circ} 37'$ E.

NOTE.—Soundings, obtained in a recent survey, show that vessels proceeding northward should keep the Pass island beacons in line, astern, bearing S. $20\frac{1}{2}^{\circ}$ E., from a position with Quoin hill in line with Tyne Yung shan peak, bearing W. $\frac{1}{2}$ S., until the southern end of the middle Rocky island is in line with a fort on the west shore, bearing W. by N. $\frac{1}{2}$ N.; then alter course to the northward to pass about 3 cables eastward of Black rocks. The least water passed over by following these directions will be a depth of 15 feet at lowest springs, situated about $3\frac{1}{2}$ miles from Pass island.

Proceeding northward, the beacons on Slut island should be brought in line, bearing N. $8\frac{1}{2}^{\circ}$ W., when Inner rock bears East, and should be kept in line, leading well clear of all known dangers, until Mitre rock bears West.

(Variation 1° Westerly in 1898.)

B. P. OREAGH, *Comdr., R.I.M.,*
Port Officer of Calcutta.

Published for general information.

T. H. CLOWES,
Under-Secretary, Marine Department.

CALCUTTA, the 23rd February 1898.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 54.

[Second Publication.]

NEW ZEALAND—SOUTH ISLAND.

Westport—Alterations in lights and night tidal signals.

THE British Admiralty has given notice (No. 48 of 1898) that on 1st January 1898, the harbour lights and night tidal signals, hitherto shown at Westport, would be replaced by the undermentioned lights and signals:—

1. The *white* harbour light, shown from the flagstaff on the western breakwater, without any additional signal, indicates:—Wait.
2. A *red* light under the *white* harbour light, indicates:—Bar unsafe.
3. A *green* light over the *white* harbour light, indicates:—Bar safe for vessels of 9 feet draught.
4. A *green* light under the *white* harbour light, indicates:—Bar safe for vessels of $11\frac{1}{2}$ feet draught.
5. A *white* light under the *white* harbour light, indicates:—Bar safe for vessels of 14 feet draught.
6. Two *red* lights are shown, as fairway lights, from the beacons on the west side of the harbour within the breakwaters; the front beacon is painted white, the rear beacon, white with a red band.

These lights, when in line, bear S. by E. $\frac{1}{2}$ E., and they should be kept in line over the bar and between the breakwaters, until the *two red* lights, shown from beacons on the western breakwater, are in line, bearing N. W. by N., when these last lights should be kept in line astern, up the river to the wharves.

7. The *white* harbour light is always shown; the *red* fairway lights are not shown when the bar is unsafe.

B. P. CREAGH, *Comdr., R.N.M.*,
Port Officer of Calcutta.

Published for general information.

T. H. CLOWES,
Under-Secretary, Marine Department.

CALCUTTA, the 23rd February 1898.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 55.

[Second Publication.]

BAY OF BENGAL—MADRAS COAST.

CAUTION.—Position of a submerged wreck.

A TELEGRAPHIC communication has been received from the Presidency Port Officer, Madras, stating that the Commander of the *Nawab* reports having passed a submerged wreck with mast visible in Lat. $19^{\circ} 26'$, North Long. $86^{\circ} 11'$ East. Mariners are warned accordingly.

B. P. CREAGH, *Comdr., R.N.M.*,
Port Officer of Calcutta.

Published for general information.

T. H. CLOWES,
Under-Secretary, Marine Department.

CALCUTTA, the 26th February 1898.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 40.

[Third Publication.]

EASTERN ARCHIPELAGO—CELEBES, SOUTH COAST.

Sunken rock south-westward of Cape Buku Buku.

THE British Admiralty has given notice (No. 22 of 1898) that the Master of the Netherlands Indies steam-vessel *Japara* reports the existence of an isolated rock, with a depth of 16 feet on it, situated about one mile off shore in a position with Malasoro point in line with Jeneponto head bearing about W. by N. $\frac{1}{2}$ N.; and point Petang about N.E. $\frac{1}{2}$ E.

Approximate position, lat. $5^{\circ} 42' 50''$ S., long. $119^{\circ} 44' 25''$ E.

(Variation 2° Easterly in 1898.)

H. LINDQUIST,
for Port Officer of Calcutta.

Published for general information.

T. H. CLOWES,
Under-Secretary, Marine Department.

CALCUTTA, the 15th February 1898.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 41.

[Third Publication.]

EASTERN ARCHIPELAGO—Lombok.

Light at Ampenan.

THE British Admiralty has given notice (No. 23 of 1898) that, on 5th January 1898, a sixth order, *fixed white light*, elevated 41 feet above the sea, and visible 11 miles in clear weather, was shown from a white, frame-work, iron support, 42 feet in height, with the keeper's dwelling (white, red roof) adjoining, situated in a position bearing N.E. by N., distant 68 yards, from Ampenan flagstaff, west coast of Lombok.

Approximate position, lat. $8^{\circ} 34' 15''$ S., long. $116^{\circ} 3' 55''$ E.

(Variation 2° Easterly in 1898.)

H. LANDQUIST,
for Port Officer of Calcutta.

Published for general information.

CALCUTTA, the 15th February 1898.

T. H. CLOWES,
Under-Secretary, Marine Department.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 42.

[Third Publication.]

PACIFIC OCEAN—PHILIPPINE ISLANDS—MINDANAO.

Iligan bay—Amended particulars of coral patch, eastward of point Bombon.

THE British Admiralty has given notice (No. 25 of 1898) that an examination has recently been made of the danger marked "Rocky bank," &c., about 12 miles eastward of point Bombon, west side of Iligan bay, with the undermentioned result:—

This patch, consisting of coral and white sand, is about 3 cables in length, north-west and south-east, within the 5-fathom line, and 2 cables broad, with a least depth of 16 feet on it, and soundings of upwards of 50 fathoms about a mile off around.

It is situated about $2\frac{1}{2}$ miles, N.E. by N., from the position in which it has hitherto been shown on the charts, or approximately in lat. $8^{\circ} 40' N.$, long. $123^{\circ} 51' E.$

(Variation 1° Easterly in 1898.)

H. LANDQUIST,
for Port Officer of Calcutta.

Published for general information.

CALCUTTA, the 15th February 1898.

T. H. CLOWES,
Under-Secretary, Marine Department.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 43.

[Third Publication.]

BAY OF BENGAL—BURMA COAST.

Light-vessel "Krishna" resumed her station.

IN continuation of Notice to Mariners No. 242, dated 16th December 1895, issued by this Office, a further telegraphic communication has been received from the Port Officer, Rangoon, stating that the Krishna shoal light-vessel has resumed her station exhibiting original light. The temporary light-vessel has been withdrawn.

B. P. CARRAGH, Comdr., R.N.,
Port Officer of Calcutta.

Published for general information.

CALCUTTA, the 21st February 1898.

T. H. CLOWES,
Under-Secretary, Marine Department.

GOVERNMENT OF BENGAL,—MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 44.

[Third Publication.]

BAY OF BENGAL—BURMA COAST.

CAUTION—Position of wreck of steamer "*Medusa*."

A TELEGRAPHIC communication has been received from the Port Officer, Rangoon, stating that the Commander of the Royal Indian Marine steamer *Alinto* reports that the wreck of the steamer *Medusa* lies sunk from 6 to 8 fathoms water bearing south 27° east, true, from Table Island light-house, distance 9 cables approximate, and 5 cables approximate from the shore; fore and after ends submerged, bridge above water, foremast standing. Mariners are warned accordingly.

B. P. OREAGH, *Comdr., R.I.M.,*
Port Officer of Calcutta.

Published for general information.

CALCUTTA, the 21st February 1898.

T. H. CLOWES,
Under-Secretary, Marine Department.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 45.

[Third Publication.]

INDIAN OCEAN—MALACCA STRAITS.

A shoal not marked on Admiralty chart.

THE Master of the ship *Tinto Hill* reports the existence of a shoal not marked on Admiralty chart for Malacca Strait, number of chart being 1855, sheet No. 2, having small corrections up to 1st January 1896 and large corrections to December 1885. He also discovered a narrow strip of black sand about 50 fathoms long N.N.W. and S.S.E. (with sea birds picking on it) about a mile off; tacked ship to N. by E. $\frac{1}{4}$ E. when the following bearings were taken:—"Paroselar Hill" E. $\frac{1}{4}$ N., One fathom bank light-house N. $\frac{1}{4}$ E. and the ridge of sand forming shoal W. by S. $\frac{1}{4}$ S.; ship's head by standard compass N. by E. $\frac{1}{4}$ E.; error $3^{\circ} 26'$ easterly; tide flowing and setting S.E. by S. and running $2\frac{1}{2}$ knots, more or less. Immediately ship was heading off took cast of the lead and had no bottom at 25 fathoms. Weather clear and fine. Wind variable.

B. P. OREAGH, *Comdr., R.I.M.,*
Port Officer of Calcutta.

Published for general information.

CALCUTTA, the 21st February 1898.

T. H. CLOWES,
Under-Secretary, Marine Department.



APPENDIX TO

The Calcutta Gazette.

WEDNESDAY, MARCH 16, 1898.

NOTICES TO MARINERS.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 63.

[First Publication.]

INDIAN OCEAN—MALACCA STRAITS.

A shoal not marked on Admiralty chart.

THE Master of the ship *Tinto Hill* reports the existence of a shoal not marked on Admiralty chart for Malacca strait; number of chart being 1355, sheet 2, having small corrections up to 1st January 1896, and large corrections to December 1885. The shoal referred to is a narrow strip of black sand about 50 fathoms long, N. N. W. and S. S. E. After tacking ship to N. by E. $\frac{1}{2}$ E., the following bearings were taken:—

Ridge of sand forming shoal W. by S. $\frac{1}{2}$ S. ...	} One mile off.
One-fathom bank light-house, N. $\frac{1}{2}$ E. ...	
Parcelar Hill—E. $\frac{1}{2}$ N. ...	

Ship's head by standard compass, N. by E. $\frac{1}{2}$ E.

Error 2° 26' Easterly.

(This cancels Notice to Mariners No. 45, dated 21st February 1898.)

B. P. CREAGH, Comdr., R.I.M.,
Port Officer of Calcutta.

Published for general information.

CALCUTTA, the 8th March 1898.

T. H. CLOWES,
Under-Secretary, Marine Department.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 64.

[Second Publication.]

BAY OF BENGAL—BURMA COAST.

The "Medusa" first struck on a rock.

WITH reference to Notice to Mariners No. 44, dated the 21st February, issued by this office, the Port Officer, Rangoon, has given further notice that the Master of the steamer *Medusa* reports that that vessel first struck a rock two miles north-west of Table island before becoming a wreck in the position previously notified.

B. P. CREAGH, Comdr., R.I.M.,
Port Officer of Calcutta.

Published for general information.

T. H. CLOWES,
Under-Secretary, Marine Department.

CALCUTTA, the 1st March 1898.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 57.

[Second Publication.]

AUSTRALIA, INNER ROUTE—HOWICK GROUP.

Sunken rock westward of Houghton island.

THE British Admiralty has given notice (No. 53 of 1898) of the existence of a rock, with a depth of 18 feet on it at low water springs, situated in a position with Howick island summit (206) bearing about N. 65° E., distant 2½ miles; and western extreme of Howick island N. 7° W.

Approximate position, lat. 14° 31' 20" S., long. 144° 57' 10" E.

(Variation 6° Easterly in 1898.)

B. P. CREAGH, Comdr., R.I.M.,
Port Officer of Calcutta.

Published for general information.

T. H. CLOWES,
Under-Secretary, Marine Department.

CALCUTTA, the 3rd March 1898.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 58.

[Second Publication.]

CELEBES, EAST COAST—GULF OF TOMINI.

Coral patch eastward of Silabian point.

THE British Admiralty has given notice (No. 54 of 1898) of the existence of a very small patch of sand and coral, with a depth of 3 feet on it, and no bottom at 70 fathoms close to all round, situated in a position about 8 miles eastward of Silabian point, or approximately in lat. 0° 21' 0" N., long. 120° 25' 45" E.

B. P. CREAGH, Comdr., R.I.M.,
Port Officer of Calcutta.

Published for general information.

T. H. CLOWES,
Under-Secretary, Marine Department.

CALCUTTA, the 3rd March 1898.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 59.

[Second Publication.]

CEYLON, SOUTH-WEST COAST—POINT DE GALLE APPROACH.

Non-existence of Luna Horowa rock.

THE British Admiralty has given notice (No. 55 of 1898) that information has been received from the Master Attendant at Point de Galle, dated 22nd December 1897, that he recently examined the locality in which Luna Horowa rock has hitherto been shown on the Admiralty Charts, viz., bearing S.E. ½ S., distant 1½ miles, from Unawatti point, and found not less than 10 fathoms in that position.

The fishermen state that the name Horowa rock is applied to a 3-fathom patch, which lies about a cable south-westward of Bellows rock, and on which the sea breaks heavily in the South-west monsoon, and that no other shoal is known in the vicinity.

Luna Horowa rock (P. D.) has consequently been expunged from the Admiralty Charts, and the danger line has been extended one cable south-westward of Bellows rock.

Approximate position, Bellows rock, lat. 5° 59' 45" N., long. 80° 14' 30" E.

(Variation 1° Easterly in 1898.)

B. P. CREAGH, Comdr., R.I.M.,
Port Officer of Calcutta.

Published for general information.

T. H. CLOWES,
Under-Secretary, Marine Department.

CALCUTTA, the 3rd March 1898.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.
NOTICE TO MARINERS—No. 60.

[Second Publication.]

NEW ZEALAND, SOUTH ISLAND—AWARUA OR BLUFF HARBOUR.

Buoys marking area of blasting operations.

THE British Admiralty has given notice (No. 59 of 1898) that blasting operations are being carried on to remove Mid-channel rock, which is presumed to be the 19 feet rock, situated in the entrance to Bluff harbour, about N. by W. $\frac{1}{2}$ W., distant $5\frac{1}{2}$ cables, from the eastern extreme of Stirling point.

The area of the works is defined by four red buoys, and all vessels should pass northward of these buoys.

A note to that effect has been placed on the plan of the entrance on Chart No. 2540.

Approximate position, lat. $46^{\circ} 38' 35''$ S., long. $168^{\circ} 22' 55''$ E.

(Variation 16° Easterly in 1898.)

B. P. O'BRIEN, Comdr., R.N.M.,
Port Officer of Calcutta.

Published for general information.

CALCUTTA, the 3rd March 1898.

T. H. CLOWES,
Under-Secretary, Marine Department.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.
NOTICE TO MARINERS—No. 61.

[Second Publication.]

CHINA, EAST COAST—HAI TAN STRAIT.

Rock in north entrance.

THE British Admiralty has given notice (No. 60 of 1898) that information has been received through the Board of Trade that, on 3rd October 1897, the steam-vessel *Namoa* struck on a rock, which is said to lie about half a mile westward of Brown rock, north entrance of Hai tan strait.

The symbol for a rock with less than 6 feet water on it, with the words "Namoa rock (pos. approx)" written against it, has been placed on the Admiralty Chart in approximately lat. $25^{\circ} 47' 10''$ N., long. $119^{\circ} 38' 55''$ E.

B. P. O'BRIEN, Comdr., R.N.M.,
Port Officer of Calcutta.

Published for general information.

T. H. CLOWES,
Under-Secretary, Marine Department.

CALCUTTA, the 3rd March 1898.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.
NOTICE TO MARINERS—No. 62.

[Second Publication.]

EASTERN ARCHIPELAGO—BULELENG (BELLING) ROAD.

Submarine telegraph cable moved eastward and light discontinued.

THE British Admiralty has given notice (No. 70 of 1898)—The Netherlands Government has given Notice, dated 26th January 1898, that the landing-place of the submarine telegraph cable in Buleleng (Belling) road has been moved from the western to the eastern telegraph-cable house; and the prohibited anchorage is now further eastward than the white cone on the western angle of the western cable house in line with the white ball on the roof of that house. Consequently the red light, previously shown from the western cable house over the prohibited anchorage, has been discontinued; and the white cone, on the eastern angle of that house, has been withdrawn.

Approximate position, lat. $8^{\circ} 5' 45''$ S., long. $115^{\circ} 6' 0''$ E.

B. P. O'BRIEN, Comdr., R.N.M.,
Port Officer of Calcutta.

Published for general information.

CALCUTTA, the 3rd March 1898.

T. H. CLOWES,
Under-Secretary, Marine Department.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 46.

[Third Publication.]

AUSTRALIA—BRISBANE RIVER.

Increased depth of water in the dredged channels of the Brisbane river, and corresponding alteration of Tide signals from the Pile light-house.

THE Port Master, Brisbane, has given notice (No. 1 of 1898) that, on and after the 16th instant, the available depth in the dredged outtings of the Brisbane River will be 16 feet at low water.

Tide signals will be made from the Pile Light-house in accordance with the following amended code:—

Day Signals.	Depth in Cutting (Feet).	Night Signals.
Flag East ...	16	White East.
Flag West ...	16½	White West.
Ball East ...	17	Red East.
Ball West ...	17½	Red West.
Cone East ...	18	Green East.
Cone West ...	18½	Green West.
Inverted cone East ...	19	White East, red West.
Inverted cone West ...	19½	White West, red East.
Ball East, cone West ...	20	Red East, green West.
Ball West, cone East ...	20½	Red West, green East.
Ball East, inverted cone West ...	21	Green East, white West.
Ball West, inverted cone East ...	21½	Green West, white East.
Cone East, inverted cone West ...	22	White East, white West.
Cone West, inverted cone East ...	22½	Red East, red West.
Cone East, cone West ...	23	Green East, green West.
Inverted cone East, inverted cone West ...	23½	Two White vertical West.
Ball East, ball West ...	24	Red over white West.
Flag East, flag West ...	24½	Green over white West.

It will be noted that no alteration is to be made in the arrangement of the symbols, the changes made being in the depth corresponding to each signal.

B. P. CREAGH, Comdr., R.N.,
Port Officer of Calcutta.

Published for general information.

CALCUTTA, the 23rd February 1898.

T. H. CLOWES,
Under-Secretary, Marine Department.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 47.

[Third Publication.]

AUSTRALIA.

New Caledonian submarine cable.

THE Portmaster, Brisbane, has given notice (No. 2 of 1898) that, in connection with the repairs to this Cable, there are now two buoys, surmounted with Flag and Staff, laid in the following positions, viz.:—

First—

Latitude 24° 17' 15" South.
Longitude 153° 12' East.

Second—

Latitude 24° 17' South.
Longitude 153° 15' 15" East.

From the first of these positions Lady Elliott Island bears W. by N. ½ N., 26½ miles.

B. P. CREAGH, Comdr., R.N.,
Port Officer of Calcutta.

Published for general information.

CALCUTTA, the 23rd February 1898.

T. H. CLOWES,
Under-Secretary, Marine Department.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 48.

[Third Publication.]

AUSTRALIA—BRISBANE RIVER.

Rescinding Notice to Mariners No. 1 of 1898.

THE Portmaster, Brisbane, has given notice (No. 3 of 1898) that Notice to Mariners, No. 1 of 1898, dealing with the Tide Signals in connection with increased depth of the Brisbane river, is rescinded.

B. P. ORRAGH, *Comdr., R.I.M.,*
Port Officer of Calcutta.

Published for general information.

CALCUTTA, the 23rd February 1898.

T. H. CLOWES,
Under-Secretary, Marine Department.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 49.

[Third Publication.]

AUSTRALIA—CLEVELAND BAY.

A small light near the Quarantine Station jetty.

THE Portmaster, Brisbane, has given notice (No. 4 of 1898) that a small white light is now exhibited from a platform situated near the Quarantine Station Jetty, Cleveland bay, to enable vessels to pick up the deepwater anchorage with greater facility.

The light is visible between the bearings of N. 73° E. and N. 34° E., being screened to mark the No. 2 Black Buoy and the Cage Buoy.

B. P. ORRAGH, *Comdr., R.I.M.,*
Port Officer of Calcutta.

Published for general information.

CALCUTTA, the 23rd February 1898.

T. H. CLOWES,
Under-Secretary, Marine Department.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 50.

Third Publication.

AUSTRALIA—PRINCE OF WALES CHANNEL.

Beacon on Ipihi Reef blown down.

THE Portmaster, Brisbane, has given notice (No. 5 of 1898) that the Beacon on Ipihi Reef, Prince of Wales Channel, has been blown down. The beacon will be restored as soon as possible, due notice of which will be given.

Charts affected, Nos. 2354 and 691.

Australia Directory, volume 2, page 481.

B. P. ORRAGH, *Comdr., R.I.M.,*
Port Officer of Calcutta.

Published for general information.

CALCUTTA, the 28th February 1898.

T. H. CLOWES,
Under-Secretary, Marine Department.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 51.

[Third Publication.]

BAY OF BENGAL—SANDHEADS—HOOGHLY RIVER.

Pilot's Ridge light-ship placed in position.

THE Deputy Conservator of the Port, Calcutta, has given notice that the Pilot's Ridge light-ship, which is now placed in position from the 14th March to the 31st October, inclusive, will, from the 1st November next, remain in position the whole year.

There will be no blue light burnt between the 1st November and the 14th March.

B. P. ORRAGH, *Comdr., R.I.M.,*
Port Officer of Calcutta.

Published for general information.

CALCUTTA, the 23rd February 1898.

T. H. CLOWES,
Under-Secretary, Marine Department.

GOVERNMENT OF BENGAL,—MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 52.

[Third Publication.]

BAY OF BENGAL—HOOGHLY RIVER—GASPER CHANNEL.

A flashing light instead of a fixed white light.

THE Deputy Conservator of the Port, Calcutta, has given notice that the fixed white light now exhibited from the Lower Gasper lightship will be discontinued from the 31st October next.

In place thereof this lightship will display, on and after the 1st November next, a flashing light in the following periods:—A flash of 10 seconds, an eclipse of 10 seconds; a flash of 10 seconds and a dark interval of 30 seconds.

The blue lights will be shown as notified.

B. P. O'BRIEN, *Comdr., R.N.M.,*
Port Officer of Calcutta.

Published for general information.

CALCUTTA, the 23rd February 1898.

T. H. CLOWES,
Under-Secretary, Marine Department.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 53.

[Third Publication.]

CHINA, EAST COAST—HAI TAN STRAIT.

Leading beacons on Pass and Slut islands.

THE British Admiralty has given notice (No. 45 of 1898) that the undermentioned leading beacons have been erected in Hai tan strait, to assist in the navigation of the Narrows:—

1. Two beacons on the north-eastern slope of Pass island, bearing when in line S. $20\frac{1}{2}^{\circ}$ E.

Each beacon is surmounted by a diamond-shaped top-mark, the northern with a white field and central part black; the southern with a black field and central part white.

Approximate position, Pass island, lat. $25^{\circ} 27\frac{1}{2}'$ N., long. $119^{\circ} 39\frac{1}{2}'$ E.

2. Two beacons on the south-eastern slope of Slut island, bearing when in line N. $8\frac{1}{2}^{\circ}$ W.

Each beacon is surmounted by a triangular top-mark, painted white with a vertical, black stripe in the middle; the triangle on the northern beacon is placed base upwards, on the southern base downwards.

Approximate position, Slut island, lat. $25^{\circ} 40\frac{1}{2}'$ N., long. $119^{\circ} 37'$ E.

NOTE.—Soundings, obtained in a recent survey, show that vessels proceeding northward should keep the Pass island beacons in line, eastern, bearing S. $20\frac{1}{2}^{\circ}$ E., from a position with Quoin hill in line with Tyne Yung shan peak, bearing W. $\frac{1}{2}$ S., until the southern end of the middle Rocky island is in line with a fort on the west shore, bearing W. by N. $\frac{1}{2}$ N.; then alter course to the northward to pass about 3 cables eastward of Black rocks. The least water passed over by following these directions will be a depth of 15 feet at lowest springs, situated about $3\frac{1}{2}$ miles from Pass island.

Proceeding northward, the beacons on Slut island should be brought in line, bearing N. $8\frac{1}{2}^{\circ}$ W., when Inner rock bears East, and should be kept in line, leading well clear of all known dangers, until Mitre rock bears West.

(Variation 1° Westerly in 1898.)

B. P. O'BRIEN, *Comdr., R.N.M.,*
Port Officer of Calcutta.

Published for general information.

CALCUTTA, the 23rd February 1898.

T. H. CLOWES,
Under-Secretary, Marine Department.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.
NOTICE TO MARINERS—No. 54.

[Third Publication.]

NEW ZEALAND—SOUTH ISLAND.

Westport—Alterations in lights and night tidal signals.

THE British Admiralty has given notice (No. 48 of 1898) that on 1st January 1898, the harbour lights and night tidal signals, hitherto shown at Westport, would be replaced by the undermentioned lights and signals:—

1. The *white* harbour light, shown from the flagstaff on the western breakwater, without any additional signal, indicates:—Wait.
2. A *red* light under the *white* harbour light, indicates:—Bar unsafe.
3. A *green* light over the *white* harbour light, indicates:—Bar safe for vessels of 9 feet draught.
4. A *green* light under the *white* harbour light, indicates:—Bar safe for vessels of 11½ feet draught.
5. A *white* light under the *white* harbour light, indicates:—Bar safe for vessels of 14 feet draught.
6. Two *red* lights are shown, as fairway lights, from the beacons on the west side of the harbour within the breakwaters; the front beacon is painted white, the rear beacon, white with a red band.

These lights, when in line, bear S. by E. ½ E., and they should be kept in line over the bar and between the breakwaters, until the *two red* lights, shown from beacons on the western breakwater, are in line, bearing N. W. by N., when these last lights should be kept in line astern, up the river to the wharves.

7. The *white* harbour light is always shown; the *red* fairway lights are not shown when the bar is unsafe.

B. P. CERRACH, Comdr., R.I.M.,
Port Officer of Calcutta.

Published for general information.

T. H. CLOWES,
Under-Secretary, Marine Department.

CALCUTTA, the 23rd February 1898.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 55.

[Third Publication.]

BAY OF BENGAL—MADRAS COAST.

CAUTION.—Position of a submerged wreck.

A TELEGRAPHIC communication has been received from the Presidency Port Officer, Madras, stating that the Commander of the *Nawab* reports having passed a submerged wreck with mast visible in Lat. 19° 26', North Long. 86° 11' East. Mariners are warned accordingly.

B. P. CERRACH, Comdr., R.I.M.,
Port Officer of Calcutta.

Published for general information.

T. H. CLOWES,
Under-Secretary, Marine Department.

CALCUTTA, the 26th February 1898.



APPENDIX TO

The Calcutta Gazette.

WEDNESDAY, MARCH 23, 1898.

NOTICES TO MARINERS.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.

NOTICE TO MARINERS—No 64.

[First Publication.]

CHINA SEA—PHILIPPINES—LUZON.

Manilla Bay—Light at St. Nicholas bank.

With reference to Notice to Mariners No. 226, dated 25th November 1895, issued by this office, the British Admiralty has given further notice (No. 83 of 1898) that information has been received that, in the latter part of 1897, a light would be exhibited from this beacon.

St. Nicholas bank light is an *electric, flashing white* light every minute, thus:—flash, twenty seconds; eclipse, forty seconds; it is elevated 34 feet above high water, and visible from all directions (except in eight small arcs of about 3° each, the bearings of which are not given) a distance of 4 miles in clear weather.

The lighthouse is an iron tower, standing upon a pyramidal base of masonry, situated in a depth of 2 fathoms, the whole showing 36 feet above high water.

Approximate position, lat. 14° 26' 50" N., long. 120° 45' 20" E.

B. P. CREAGH, *Comdr., R.N.M.,*
Port Officer of Calcutta.

Published for general information.

Calcutta, the 9th March 1898.

T. H. CLOWER,
Under-Secretary, Marine Department.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT

NOTICE TO MARINERS—No. 65.

[First Publication.]

PACIFIC OCEAN—CAROLINE ISLANDS.

Yap island.—Light and buoys in port Tomil.

The British Admiralty has given notice (No. 85 of 1898) that the light (faced red), previously exhibited on the west side of the entrance to port Tomil, has been discontinued, and is not likely to be re-exhibited for some years.

Approximate position, lat. 9° 29' 15" N., long. 138° 4' 20" E.

Also, that buoys have been placed in the undermentioned positions; but as they frequently drift and are not at once replaced, they should not be relied on:—

1. A red buoy and a white buoy at the edge of the reef on the eastern side of the entrance.
2. Two red buoys at the entrance of the channel leading to Rail.

3. A white buoy at the southern extremity of the reef extending southward from Engnoth island.
4. A mooring buoy south-westward of Tarrang island for the use of vessels coaling there.

NOTE.—Only small vessels, of less than 6 feet draught, can lie alongside the mole at Tarrang island; other vessels moor with an anchor from the bows and the stern secured to the mooring buoy.

B. P. ORRAGH, *Comdr., R.I.M.,*
Port Officer of Calcutta.

Published for general information.

CALCUTTA, the 9th March 1898.

T. H. CLOWES,
Under-Secretary, Marine Department.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 46.

[First Publication.]

BAY OF BENGAL—NICOBAR AND KAMORTA ISLANDS.

Existence of certain dangers in these islands.

THE Officer in charge of the Indian Marine Survey has given notice of the existence of the following dangers in the Nicobar islands:—

Great Nicobar.—A depth of 4½ fathoms was obtained in lat. 6° 58' 15" N., long. 93° 40' 00" E., from which the left extreme of the land bore N. 27° W. Mount Thuillier N. 86° E. and Kopenhagen point S. 80° E. This patch appeared to be small in extent with less water on it about 2 cables north of the depth of 4½ fathoms.

St. George's channel, Kondul harbour.—A depth of 2½ fathoms was obtained in lat. 7° 11' 45" N., long. 93° 42' 50" E., S. 38° E., 9 cables from the S. E. point of Kondul island and S. 72½ W. 2.2 miles from the village. R. I. M. S. *Elphinstone* when steaming into Kondul harbour from the westward could get no bottom at 17 fathoms close to depths of 11, 16, 6, and 10 fathoms shown in Admiralty Chart No. 840.

Kamorta island.—A depth of 1 fathom was obtained in lat. 8° 07' N., long. 93° 26' E. with the left extreme of the land (Kamorta Id.) bearing N. 9° E. Hill 436 feet N. 77½ E. and Mount Edgcombe 360 feet S. 37° E. A report was made to the Lieutenant in Command R. I. M. S. *Elphinstone* that breakers have been seen W. N. W. of Dring harbour.

All bearings are true.

This Notice affects Chart No. 840, Nicobar islands, and Sailing Directions, Bay of Bengal Pilot, 1892, pages 268, 269 and 272.

B. P. ORRAGH, *Comdr., R.I.M.,*
Port Officer of Calcutta.

Published for general information.

T. H. CLOWES,
Under-Secretary, Marine Department.

CALCUTTA, the 9th March 1898.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 67.

[First Publication.]

BAY OF BENGAL—BURMA COAST.

Date of exhibition of the 12-mile light.

WITH reference to Notice to Mariners No. 243, dated 27th December 1897, issued by this Office, a further telegraphic communication has been received from the Port Officer, Rangoon, stating that the 12-mile light on Spit-light-vessel was exhibited from the 28th January last.

B. P. ORRAGH, *Comdr., R.I.M.,*
Port Officer of Calcutta.

Published for general information.

T. H. CLOWES,
Under-Secretary, Marine Department.

CALCUTTA, the 12th March 1898.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 58.

[First Publication.]

BAY OF BENGAL—BURMA COAST.

Baragua flats light vessel resumed station.

With reference to Notice to Mariners No. 238, dated 14th December 1897, issued by this office, the Port Officer, Rangoon, has given further notice that Baragua flats light-vessel has resumed her station exhibiting original light.—Temporary light-vessel withdrawn.

B. P. CREAGH, Comdr., R.I.M.,
Port Officer of Calcutta.

Published for general information.

CALCUTTA, the 12th March 1898.

T. H. CLOWES,
Under-Secretary, Marine Department.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 59.

[First Publication.]

BAY OF BENGAL—BURMA COAST.

Gulf of Martaban—Exhibition of Amherst point light postponed.

With reference to Notice to Mariners No. 6, dated 14th January last, the Port Officer, Rangoon, has given further notice that the exhibition of Amherst point light has been postponed to the end of April next.

B. P. CREAGH, Comdr., R.I.M.,
Port Officer of Calcutta.

Published for general information.

CALCUTTA, the 12th March 1898.

T. H. CLOWES,
Under-Secretary, Marine Department.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 70.

[First Publication.]

SOUTH PACIFIC OCEAN—NEW ZEALAND.

Ice to the south-eastward.

The British Admiralty has given notice (No. 80 of 1898) that information has been received from the Manager of the Shaw Savill and Albion Company and others that large numbers of icebergs have been seen, during the months of November and December 1897, between the parallels of $46^{\circ} 30'$ and $51^{\circ} 0'$ South latitude and the meridians of $175^{\circ} E^{\circ}$ and $165^{\circ} W.$ longitude.

Icebergs in this area are rare, and Mariners are warned to avoid it for the present, if practicable; or to exercise great caution if obliged to pass through it.

B. P. CREAGH, Comdr., R.I.M.,
Port Officer of Calcutta.

Published for general information.

CALCUTTA, the 14th March 1898.

T. H. CLOWES,
Under-Secretary, Marine Department.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 71.

[First Publication.]

BAY OF BENGAL—ORISSA COAST.

Erratum.—In Notice to Mariners No. 34, dated 9th February, 1898 paragraph 1, lines 2 and 3, for "N. $70^{\circ} W.$ " read "N. $79^{\circ} W.$ ", and in paragraph 2, lines 3 and 4, for "transit marks," read "transit marks on."

B. P. CREAGH, Comdr., R.I.M.,
Port Officer of Calcutta.

Published for general information.

CALCUTTA, the 14th March 1898.

T. H. CLOWES,
Under-Secretary, Marine Department.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 73.

[First Publication.]

INDIA, SOUTH—INDIAN OCEAN.

A large red printed conical buoy with staff adrift.

THE Master of the S.S. *Okara* reports having passed at 0-20 A.M., on the morning of the 4th instant, a large red painted conical buoy with staff, and with white letters on side B.L. or C.L. Position of ship Lat. 8-59 S. Long. 72-08 E.; current setting N. 49 E. 1½ knots per hour.

B. P. CREAGH, *Comdr., R.N.*,
Port Officer of Calcutta.

Published for general information.

T. H. CLOWES,
Under-Secretary, Marine Department.

CALCUTTA, the 16th March 1898.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 73.

[First Publication.]

AUSTRALIA, SOUTH—GULF OF ST. VINCENT.

Three buoys placed to mark the passage between Troubridge shoals and the main land.

THE President, Marine Board, Port Adelaide, has given notice (No. 1 of 1898) that to mark the passage between Troubridge Shoals and the mainland, three buoys have been placed, as mentioned hereunder.

1. A red buoy with framework and cone, in 10 ft. of water, L.W.S., on the west edge of the reef at the south entrance, with Troubridge lighthouse bearing N. 65° E. and Hungry Point N. 7° E.

2. On the south end of a sand spit in mid-channel a chequered buoy with framework and cone, in 12 ft. of water, L.W.S., Troubridge lighthouse bearing N. 80° E., Hungry Point N. 45° W.

3. On the north-west edge of the shoal off Troubridge Island a red buoy with framework and cone, in 2½ fathoms of water Troubridge lighthouse bearing S. 62° E., Hungry Point S. 58° W.

All bearings correct magnetic.

This affects Admiralty chart No. 2899A and plan No. 2152.

B. P. CREAGH, *Comdr., R.N.*,
Port Officer of Calcutta.

Published for general information.

T. H. CLOWES,
Under-Secretary, Marine Department.

CALCUTTA, the 16th March 1898.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 74.

[First Publication.]

BAY OF BENGAL—BURMA COAST.

A sunken native vessel.

A TELEGRAPHIC communication has been received from the Port Officer, Rangoon, stating that the Master of the steamer *Zulu* reports having passed a sunken native vessel with deck load of bamboos above water, and mast standing, in Lat. 10° 12' N., Long. 86° 55' E.

B. P. CREAGH, *Comdr., R.N.*,
Port Officer of Calcutta.

Published for general information.

T. H. CLOWES,
Under-Secretary, Marine Department.

CALCUTTA, the 17th March 1898.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 76.

[First Publication.]

AUSTRALIA—PIONEER RIVER.

New entrance thereto.

THE Port Master, Brisbane, has given notice (No. 6 of 1898) that the recent cyclone and floods at Mackay, Pioneer River, have breached East Point Spit, creating a new entrance and partially closing the main channel.

The new entrance will be marked for navigation, as soon as possible, and due notice will be given; in the meantime masters of vessels are cautioned not to attempt to enter the river without a pilot.

Chart affected, No. 847.

Australia Directory, Vol. 2, page 248.

B. P. CREAGH, Comdr., R.I.M.,
Port Officer of Calcutta.

Published for general information.

CALCUTTA, the 31st March 1898.

T. H. CLOWES,
Under-Secretary, Marine Department.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 76.

[First Publication.]

AUSTRALIA.

Caution—Icebergs.

THE Port Master, Brisbane, has given notice (No. 7 of 1898) that advices have been received from the Admiralty stating that numerous Icebergs will be encountered between Latitude $46^{\circ}30'$ S. and Latitude 62° S., and between the meridians of 75° E. and 165° W.

Mariners intending to pass the area indicated are cautioned accordingly.

B. P. CREAGH, Comdr., R.I.M.,
Port Officer of Calcutta.

Published for general information.

CALCUTTA, the 31st March 1898

T. H. CLOWES,
Under-Secretary, Marine Department.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 82.

[Second Publication.]

INDIAN OCEAN—MALACCA STRAITS.

A shoal not marked on Admiralty chart.

THE Master of the ship *Tinto Hill* reports the existence of a shoal not marked on Admiralty chart for Malacca strait; number of chart being 1355, sheet 2, having small corrections up to 1st January 1896, and large corrections to December 1885. The shoal referred to is a narrow strip of black sand about 50 fathoms long, N. N. W. and S. S. E. After tacking ship to N. by E. $\frac{1}{2}$ E., the following bearings were taken:—

Ridge of sand forming shoal W. by S. $\frac{1}{2}$ S.	} One mile off.
One-fathom bank light-house, N. $\frac{1}{4}$ E. ...	...
Paroelar Hill—E. $\frac{1}{2}$ N. ...	...

Ship's head by standard compass, N. by E. $\frac{1}{2}$ E.Error $2^{\circ}26'$ Easterly.

(This cancels Notice to Mariners No. 45, dated 21st February 1898.)

B. P. CREAGH, Comdr., R.I.M.,
Port Officer of Calcutta.

Published for general information.

CALCUTTA, the 8th March 1898.

T. H. CLOWES,
Under-Secretary, Marine Department.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 53.

[Third Publication.]

BAY OF BENGAL—BURMA COAST.

The "Medusa" first struck on a rock.

With reference to Notice to Mariners No. 44, dated the 21st February, issued by this office, the Port Officer, Rangoon, has given further notice that the Master of the steamer *Medusa* reports that that vessel first struck a rock two miles north-west of Table island before becoming a wreck in the position previously notified.

B. P. CERRAGH, Comdr., R.N.M.,
Port Officer of Calcutta.

Published for general information.

T. H. CLOWES,
Under-Secretary, Marine Department.

CALCUTTA, the 1st March 1898.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 57.

[Third Publication.]

AUSTRALIA, INNER ROUTE—HOWICK GROUP.

Sunken rock westward of Houghton island.

The British Admiralty has given notice (No. 53 of 1898) of the existence of a rock, with a depth of 18 feet on it at low water springs, situated in a position with Howick island summit (206) bearing about N. 65° E., distant 2½ miles; and western extreme of Howick island N. 7° W.

Approximate position, lat. 14° 31' 20" S., long. 144° 57' 10" E.

(Variation 6° Easterly in 1898.)

B. P. CERRAGH, Comdr., R.N.M.,
Port Officer of Calcutta.

Published for general information.

T. H. CLOWES,
Under-Secretary, Marine Department.

CALCUTTA, the 3rd March 1898.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 59.

[Third Publication.]

CELEBES, EAST COAST—GULF OF TOMINI.

Coral patch eastward of Silabian point.

The British Admiralty has given notice (No. 54 of 1898) of the existence of a very small patch of sand and coral, with a depth of 3 feet on it, and no bottom at 70 fathoms close to all round, situated in a position about 3 miles eastward of Silabian point, or approximately in lat. 0° 21' 0" N., long. 120° 25' 45" E.

B. P. CERRAGH, Comdr., R.N.M.,
Port Officer of Calcutta.

Published for general information.

T. H. CLOWES,
Under-Secretary, Marine Department.

CALCUTTA, the 3rd March 1898.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 59.

[Third Publication.]

CEYLON, SOUTH-WEST COAST—POINT DE GALLE APPROACH.

Non-existence of Luna Horowa rock.

THE British Admiralty has given notice (No. 55 of 1898) that information has been received from the Master Attendant at Point de Galle, dated 22nd December 1897, that he recently examined the locality in which Luna Horowa rock has hitherto been shown on the Admiralty Charts, viz., bearing S.E. $\frac{1}{2}$ S., distant $1\frac{1}{2}$ miles, from Unawatti point, and found not less than 10 fathoms in that position.

The fishermen state that the name Horowa rock is applied to a 3-fathom patch, which lies about a cable south-westward of Bellows rock, and on which the sea breaks heavily in the South-west monsoon, and that no other shoal is known in the vicinity.

Luna Horowa rock (P. D.) has consequently been expunged from the Admiralty Charts, and the danger line has been extended one cable south-westward of Bellows rock.

Approximate position, Bellows rock, lat. $5^{\circ} 59' 45''$ N., long. $80^{\circ} 14' 30''$ E.

(Variation 1° Easterly in 1898.)

B. P. CREAGH, Comdr., R.I.M.,
Port Officer of Calcutta.

Published for general information.

CALCUTTA, the 3rd March 1898.

T. H. CLOWE,
Under-Secretary, Marine Department.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 60.

[Third Publication.]

NEW ZEALAND, SOUTH ISLAND—AWARUA OR BLUFF HARBOUR.

Buoys marking area of blasting operations.

THE British Admiralty has given notice (No. 59 of 1898) that blasting operations are being carried on to remove Mid-channel rock, which is presumed to be the 19 feet rock, situated in the entrance to Bluff harbour, about N. by W. $\frac{1}{2}$ W., distant $5\frac{1}{2}$ cables, from the eastern extreme of Stirling point.

The area of the works is defined by four red buoys, and all vessels should pass northward of these buoys.

A note to that effect has been placed on the plan of the entrance on Chart No. 2540.

Approximate position, lat. $46^{\circ} 36' 35''$ S., long. $168^{\circ} 22' 55''$ E.

(Variation 16° Easterly in 1898.)

B. P. CREAGH, Comdr., R.I.M.,
Port Officer of Calcutta.

Published for general information.

CALCUTTA, the 3rd March 1898.

T. H. CLOWE,
Under-Secretary, Marine Department.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 61.

[Third Publication.]

CHINA, EAST COAST—HAI TAN STRAIT.

Rock in north entrance.

THE British Admiralty has given notice (No. 60 of 1898) that information has been received through the Board of Trade that, on 2nd October 1897, the steam-vessel *Namoa* struck on a rock, which is said to lie about half a mile westward of Brown rock, north entrance of Hai tan strait.

The symbol for a rock with less than 6 feet water on it, with the words "Namoa rock (pos' approx)" written against it, has been placed on the Admiralty Chart in approximately lat. $26^{\circ} 47' 10''$ N., long. $119^{\circ} 38' 55''$ E.

B. P. CREAGH, Comdr., R.I.M.,
Port Officer of Calcutta.

Published for general information.

CALCUTTA, the 3rd March 1898.

T. H. CLOWE,
Under-Secretary, Marine Department.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 62.

(Third Publication.)

EASTERN ARCHIPELAGO—BULELENG (BELILING) ROAD.

Submarine telegraph cable moved eastward and light discontinued.

THE British Admiralty has given notice (No. 70 of 1898)—The Netherlands Government has given Notice, dated 26th January 1898, that the landing-place of the submarine telegraph cable in Buleleng (Beliling) road has been moved from the western to the eastern telegraph-cable house; and the prohibited anchorage is now farther eastward than the white cone on the western angle of the western cable house in line with the white ball on the roof of that house. Consequently the red light, previously shown from the western cable house over the prohibited anchorage, has been discontinued; and the white cone, on the eastern angle of that house, has been withdrawn.

Approximate position, lat. $8^{\circ} 5' 45''$ S., long. $115^{\circ} 5' 6''$ E.

B. P. CREASE, Comdr., R.N.,
Port Officer of Calcutta.

Published for general information.

CALCUTTA, the 3rd March 1898.

T. H. CLOWES,
Under-Secretary, Marine Department.



APPENDIX TO

The Calcutta Gazette.

WEDNESDAY, MARCH 30, 1898.

NOTICES TO MARINERS.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 77.

[First Publication.]

AUSTRALIA, INNER ROUTE—MOORILYAN HARBOUR.

Light on the southern North Barnard island.

The British Admiralty has given notice (No. 100 of 1898) that a light is exhibited from a lighthouse recently erected on the southern North Barnard island, southern approach to Moorilyan harbour:—

North Barnard island light is a sixth or *cr*, group-flashing white light, showing two flashes every ten seconds; elevated 292 feet above high water, and visible approximately from N. $\frac{1}{2}$ E. through north and west, to S.E. $\frac{1}{2}$ E., a distance of 16 miles in clear weather.

The lighthouse, 10 feet high, is a cylindrical lantern standing on a concrete base, painted white.

Approximate position on chart No. 2349, lat. $17^{\circ} 40' 50''$ S., long. $146^{\circ} 11' 0''$ E.

Should the flashing apparatus fail to work at any time, a fixed light, of small power, will be exhibited.

(Variation 6° Easterly in 1898.)

B. P. OREAGH, Comdr., R.N.,
Port Officer of Calcutta.

Published for general information.

CALCUTTA, the 26th March 1898.

T. H. CLOWES,
Under-Secretary, Marine Department.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 78.

[First Publication.]

CHINA SEA—HAINAN STRAIT.

South channel—Alteration in position of Hainan head bank buoy.

The British Admiralty has given notice (No. 101 of 1898) that, in consequence of the extension of Hainan head bank to the south-westward, Hainan head bank buoy has been moved about 2 cables, W.S.W., from its previous position; and is now moored in a depth of 16 fathoms at low water springs, in a position with Hainan bluff summit (173) bearing S.W. by W. $\frac{1}{2}$ W., distant $1\frac{1}{2}$ miles; and sand-bill (100) south.

Approximate position, lat. $20^{\circ} 9' 55''$ N., long. $110^{\circ} 42' 10''$ E.

(Variation 2° Easterly in 1898.)

B. P. OREAGH, Comdr., R.N.,
Port Officer of Calcutta.

Published for general information.

CALCUTTA, the 26th March 1898.

T. H. CLOWES,
Under-Secretary, Marine Department.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 79.

[First Publication.]

AFRICA, EAST COAST—DELAGOA BAY.

Lighthouse building northward of Cockburn shoal.

THE British Admiralty has given notice (No. 104 of 1898) that information has been received from Lieutenant and Commander J. W. Pochin, H.M.S. *Thrush*, dated 15th January 1898, that works are in progress for the purpose of erecting a lighthouse northward of Cockburn shoal, in a position with Gibbon point beacon bearing S. 23° W., distant 4 $\frac{1}{4}$ miles and cape Inyack lighthouse S. 21° E.

Approximate position, lat. 25° 53' 20" S., long. 32° 54' 10" E.

(Variation 25° Westerly in 1898.)

B. P. CERRAGH, Comdr., R.N.M.,
Port Officer of Calcutta.

Published for general information.

T. H. CLOWES,
Under-Secretary, Marine Department.

CALCUTTA, the 26th March 1898.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 80.

[First Publication.]

JAPAN—SETO UCHI.

(1) *Shoal south-eastward of Sei sima.*

THE British Admiralty has given notice (No. 109 of 1898) that the Master of the steam-vessel *Naramaru* reports the existence of a sandy shoal, about a cable in length east and west, with a depth of 2 $\frac{1}{2}$ fathoms on it at low water springs and 4 to 7 fathoms around, situated in a position with Sei sima summit (360) bearing N.W., distant 5 cables; and Tako saki summit (390) S.W.

Approximate position, lat. 34° 21' 0" N., long. 133° 51' 20" E.

(2) *Shoal north-westward of Tadotsu.*

Also, of the existence of a shoal, with a depth of 3 fathoms on it at low water springs extending about 2 cables north-west and south-east, situated in a position with the lantern at Tadotsu bearing S.E. $\frac{1}{2}$ S., distant 9 cables; and Kigasa sima summit (230) S.W. $\frac{1}{2}$ W.

Approximate position, lat. 34° 17' 10" N., long. 133° 43' 35" E.

(Variation 4° Westerly in 1898.)

B. P. CERRAGH, Comdr., R.N.M.,
Port Officer of Calcutta.

Published for general information.

T. H. CLOWES,
Under-Secretary, Marine Department.

CALCUTTA, the 26th March 1898.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 81.

[First Publication.]

JAVA, EAST COAST—BANJUWANGI ROAD.

Existence of a sunken rock.

THE British Admiralty has given notice (No. 111 of 1898) of the existence of a rock, with a depth of 3 $\frac{1}{2}$ fathoms on it at low water springs, situated southward of Depthford rocks in a position with Banjuwangi lighthouse bearing S. W. $\frac{1}{2}$ W., distant 3 cables.

Approximate position, lat. 8° 12' 30" S., long. 114° 22' 55" E.

(Variation 3° Easterly in 1898.)

B. P. CERRAGH, Comdr., R.N.M.,
Port Officer of Calcutta.

Published for general information.

T. H. CLOWES,
Under-Secretary, Marine Department.

CALCUTTA, the 26th March 1898.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 82.

[First Publication.]

NEW ZEALAND—STEWART ISLAND.

(1) *Petersen inlet—Sunken rock southward of Kaipipi bay.*

The British Admiralty has given notice (No. 112 of 1898) of the existence of a pinnacle rock, with a depth of $3\frac{1}{2}$ fathoms on it at low water, and deep water around, situated $1\frac{1}{2}$ cables eastward of the south entrance point of Kaipipi bay.

The 5-fathom line round the shore has been extended outside this rock.

Approximate position on plan No. 2641, lat. $46^{\circ} 55' 10''$ S., long. $168^{\circ} 5' 15''$ E.

(2) *Sunken rock south-eastward of Codfish island.*

Also, of the existence of a rock of small extent, with a depth of 3 feet on it at low water, situated a third of a mile from the south-east side of Codfish island, in a position with High rock bearing N. E. by N., distant 1 mile.

Approximate position on chart No. 2358, lat. $46^{\circ} 48' 16''$ S., long. $167^{\circ} 42'$ E.
(Variation 17° Easterly in 1898.)

B. P. CREAGH, Comdr., R.N.M.,
Port Officer of Calcutta.

Published for general information.

Calcutta, the 26th March 1898.

T. H. CLOWES,
Under-Secretary, Marine Department.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 64.

[Second Publication.]

CHINA SEA—PHILIPPINES—LUZON.

Manilla bay—Light at St. Nicholas bank.

With reference to Notice to Mariners No. 226, dated 25th November 1895, issued by this office, the British Admiralty has given further notice (No. 83 of 1898) that information has been received that, in the latter part of 1897, a light would be exhibited from this beacon.

St. Nicholas bank light is an *electric, flashing white light every minute*, thus:—flash, twenty seconds; eclipse, forty seconds; it is elevated 34 feet above high water, and visible from all directions (except in eight small arcs of about 8° each, the bearings of which are not given) a distance of 4 miles in clear weather.

The lighthouse is an iron tower, standing upon a pyramidal base of masonry, situated in a depth of 2 fathoms, the whole showing 36 feet above high water.

Approximate position, lat. $14^{\circ} 26' 50''$ N., long. $120^{\circ} 45' 20''$ E.

B. P. CREAGH, Comdr., R.N.M.,
Port Officer of Calcutta.

Published for general information.

Calcutta, the 9th March 1898.

T. H. CLOWES,
Under-Secretary, Marine Department.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT

NOTICE TO MARINERS—No. 65.

[Second Publication.]

PACIFIC OCEAN—CAROLINE ISLANDS.

Yap island.—Light and buoys in port Tomil.

The British Admiralty has given notice (No. 85 of 1898) that the light (Aged red), previously exhibited on the west side of the entrance to port Tomil, has been discontinued, and is not likely to be re-exhibited for some years.

Approximate position, lat. $9^{\circ} 29' 15''$ N., long. $138^{\circ} 4' 20''$ E.

Also, that buoys have been placed in the undermentioned positions; but as they frequently drift and are not at once replaced, they should not be relied on:—

1. A red buoy and a white buoy at the edge of the reef on the eastern side of the entrance.
2. Two red buoys at the entrance of the channel leading to Rull.
3. A white buoy at the southern extremity of the reef extending southward from Engnoth island.
4. A mooring buoy south-westward of Tarrang island for the use of vessels coaling there.

NOTE.—Only small vessels, of less than 6 feet draught, can lie alongside the mole at Tarrang island; other vessels moor with an anchor from the bows and the stern secured to the mooring buoy.

B. P. CREAGH, Comdr., R.N.M.,
Port Officer of Calcutta.

Published for general information.

Calcutta, the 9th March 1898.

T. H. CLOWES,
Under-Secretary, Marine Department.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 66.

[Second Publication.]

BAY OF BENGAL—NICOBAR AND KAMORTA ISLANDS.

Existence of certain dangers in these islands.

THE Officer in charge of the Indian Marine Survey has given notice of the existence of the following dangers in the Nicobar islands:—

Great Nicobar.—A depth of 4½ fathoms was obtained in lat. 6° 58' 15" N., long. 98° 40' 00" E., from which the left extreme of the land bore N. 27° W. Mount Thuillier N. 38 E. and Kopeheat point S. 80 E. This patch appeared to be small in extent with less water on it about 2 cables north of the depth of 4½ fathoms.

St. George's channel, Kondul harbour.—A depth of 2½ fathoms was obtained in lat. 7° 11' 45" N., long. 93° 42' 50" E., S. 33° E., 9 cables from the S. E. point of Kondul island and S. 72½ W. 2·2 miles from the village. R. I. M. S. *Elphinstone* when steaming into Kondul harbour from the westward could get no bottom at 17 fathoms close to depths of 11. 16. 6. and 10 fathoms shown in Admiralty Chart No. 840.

Kamorta island.—A depth of 1 fathom was obtained in lat. 8° 07' N., long. 93° 26' E. with the left extreme of the land (Kamorta Id.) bearing N. 9° E. Hill 435 feet N. 77½ E. and Mount Edgecombe 360 feet S. 37° E. A report was made to the Lieutenant in Command R. I. M. S. *Elphinstone* that breakers have been seen W. N. W. of Dring harbour.

All bearings are true.

This Notice affects Chart No. 810, Nicobar islands, and Sailing Directions, Bay of Bengal Pilot, 1893, pages 268, 269 and 272.

B. P. OREAGH, Comdr., R.I.M.,
Port Officer of Calcutta.

Published for general information.

T. H. OLOWES,
Under-Secretary, Marine Department.

CALCUTTA, the 9th March 1893.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 67.

[Second Publication.]

BAY OF BENGAL—BURMA COAST.

Date of exhibition of the 12-mile light.

WITH reference to Notice to Mariners No. 243, dated 27th December 1897, issued by this Office, a further telegraphic communication has been received from the Port Officer, Rangoon, stating that the 12-mile light on Spit-light-vessel was exhibited from the 28th January last.

B. P. OREAGH, Comdr., R.I.M.,
Port Officer of Calcutta.

Published for general information.

T. H. OLOWES,
Under-Secretary, Marine Department.

CALCUTTA, the 12th March 1898.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 68.

[Second Publication.]

BAY OF BENGAL—BURMA COAST.

Baragua flats light vessel resumed station.

WITH reference to Notice to Mariners No. 233, dated 14th December 1897, issued by this office, the Port Officer, Rangoon, has given further notice that Baragua flats light-vessel has resumed her station exhibiting original light.—Temporary light-vessel withdrawn.

B. P. OREAGH, Comdr., R.I.M.,
Port Officer of Calcutta.

Published for general information.

T. H. OLOWES,
Under-Secretary, Marine Department.

CALCUTTA, the 12th March 1898.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 69.

[Second Publication.]

BAY OF BENGAL—BUENA COAST.

Gulf of Martaban—Exhibition of Amherst point light postponed.

With reference to Notice to Mariners No. 6, dated 14th January last, the Port Officer, Rangoon, has given further notice that the exhibition of Amherst point light has been postponed to the end of April next.

B. P. CREAGH, Comdr., R.I.M.,
Port Officer of Calcutta.

Published for general information.

T. H. CLOWES,
Under-Secretary, Marine Department.

CALCUTTA, the 12th March 1898.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 70.

[Second Publication.]

SOUTH PACIFIC OCEAN—NEW ZEALAND.

Ice to the south-eastward.

The British Admiralty has given notice (No. 40 of 1898) that information has been received from the Manager of the Shaw Savill and Albion Company and others that large numbers of icebergs have been seen, during the months of November and December 1897, between the parallels of $46^{\circ} 30'$ and 51° South latitude and the meridians of 175° E. and 166° W. longitude.

Icebergs in this area are rare, and Mariners are warned to avoid it for the present, if practicable; or to exercise great caution if obliged to pass through it.

B. P. CREAGH, Comdr., R.I.M.,
Port Officer of Calcutta.

Published for general information.

T. H. CLOWES,
Under-Secretary, Marine Department.

CALCUTTA, the 14th March 1898.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 71.

[Second Publication.]

BAY OF BENGAL—ORISSA COAST.

Erratum.—In Notice to Mariners No. 34, dated 9th February, 1898 paragraph 1, lines 2 and 3, for "N. 70° W." read "N. 79° W.", and in paragraph 2, lines 3 and 4, for "transit marks," read "transit marks on."

B. P. CREAGH, Comdr., R.I.M.,
Port Officer of Calcutta.

Published for general information.

T. H. CLOWES,
Under-Secretary, Marine Department.

CALCUTTA, the 14th March 1898.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 72.

[Second Publication.]

INDIA, SOUTH—INDIAN OCEAN.

A large red painted conical buoy with staff adrift.

The Master of the S.S. *Okara* reports having passed at 9-20 A.M., on the morning of the 4th instant, a large red painted conical buoy with staff, and with white letters on side B.L. or O.L. Position of ship Lat. $3^{\circ} 59'$ S. Long. $72^{\circ} 06'$ E.; current setting N. 49° E. $1\frac{1}{2}$ knots per hour.

B. P. CREAGH, Comdr., R.I.M.,
Port Officer of Calcutta.

Published for general information.

T. H. CLOWES,
Under-Secretary, Marine Department.

CALCUTTA, the 16th March 1898.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 73.

[Second Publication.]

AUSTRALIA, SOUTH—GULF OF ST. VINCENT.

Three buoys placed to mark the passage between Troubridge shoals and the main land.

THE President, Marine Board, Port Adelaide, has given notice (No. 1 of 1898) that to mark the passage between Troubridge Shoals and the mainland, three buoys have been placed, as mentioned hereunder.

1. A red buoy with framework and cone, in 10 ft. of water, L.W.S., on the west edge of the reef at the south entrance, with Troubridge lighthouse bearing N. 66° E. and Hungry Point N. 7° E.

2. On the south end of a sand spit in mid-channel a chequered buoy with framework and cone, in 12 ft. of water, L.W.S., Troubridge lighthouse bearing N. 80° E., Hungry Point N. 45° W.

3. On the north-west edge of the shoal off Troubridge Island a red buoy with framework and cone, in 2½ fathoms of water Troubridge lighthouse bearing S. 62° E., Hungry Point S. 58° W.

All bearings correct magnetic.

This affects Admiralty chart No. 2389A and plan No. 2152.

B. P. CREAGH, Comdr., R.I.M.,
Port Officer of Calcutta.

Published for general information.

T. H. CLOWES,
Under-Secretary, Marine Department.

CALCUTTA, the 16th March 1898.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 74.

[Second Publication.]

BAY OF BENGAL—BURMA COAST.

A sunken native vessel.

A TELEGRAPHIC communication has been received from the Port Officer, Rangoon, stating that the Master of the steamer *Zulu* reports having passed a sunken native vessel with deck load of bamboos above water, and mast standing, in Lat. 10° 12' N., Long. 80° 55' E.

B. P. CREAGH, Comdr., R.I.M.,
Port Officer of Calcutta.

Published for general information.

T. H. CLOWES,
Under-Secretary, Marine Department.

CALCUTTA, the 17th March 1898.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 75.

[Second Publication.]

AUSTRALIA—PIONEER RIVER.

New entrance thereto.

THE Port Master, Brisbane, has given notice (No. 6 of 1898) that the recent cyclone and floods at Mackay, Pioneer River, have breached East Point Spit, creating a new entrance and partially closing the main channel.

The new entrance will be marked for navigation as soon as possible, and due notice will be given; in the meantime masters of vessels are cautioned not to attempt to enter the river without a pilot.

Chart affected, No. 347.

Australia Directory, Vol. 2, page 246.

B. P. CREAGH, Comdr., R.I.M.,
Port Officer of Calcutta.

Published for general information.

T. H. CLOWES,
Under-Secretary, Marine Department.

CALCUTTA, the 21st March 1898.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 76.

[Second Publication.]

AUSTRALIA.

Caution—Icebergs.

THE Port Master, Brisbane, has given notice (No. 7 of 1898) that advices have been received from the Admiralty stating that numerous Icebergs will be encountered between Latitude $46^{\circ}30'$ S. and Latitude 52° S., and between the meridians of 75° E. and 165° W.

Mariners intending to pass the area indicated are cautioned accordingly.

B. P. CREAGH, Comdr., R.N.M.,
Port Officer of Calcutta.

Published for general information.

CALCUTTA, the 21st March 1898.

T. H. CLOWES,
Under-Secretary, Marine Department.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 63.

[Third Publication.]

INDIAN OCEAN—MALACCA STRAITS.

A shoal not marked on Admiralty chart.

THE Master of the ship *Tinto Hill* reports the existence of a shoal not marked on Admiralty chart for Malacca strait; number of chart being 1355, sheet 2, having small corrections up to 1st January 1896, and large corrections to December 1885. The shoal referred to is a narrow strip of black sand about 50 fathoms long, N. N. W. and S. S. E. After tacking ship to N. by E. $\frac{1}{2}$ E., the following bearings were taken:—

Ridge of sand forming shoal W. by S. $\frac{1}{4}$ S.	...	} One mile off.
One-fathom bank light-house, N. $\frac{1}{4}$ E.	...	
Parcolar Hill—E. $\frac{1}{2}$ N.	...	
Ship's head by standard compass, N. by E. $\frac{1}{2}$ E.	...	

Error $2^{\circ}28'$ Easterly.

(This cancels Notice to Mariners No. 45, dated 21st February 1898.)

B. P. CREAGH, Comdr., R.N.M.,
Port Officer of Calcutta.

Published for general information.

CALCUTTA, the 8th March 1898.

T. H. CLOWES,
Under-Secretary, Marine Department.



APPENDIX TO

The Calcutta Gazette.

WEDNESDAY, APRIL 6, 1898.

NOTICES TO MARINERS.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 88.

[First Publication.]

AFRICA, EAST COAST—ZANZIBAR AND PEMBA ISLANDS.

(1) *Zanzibar island—Information on certain lights.*

The following Notice to Mariners (No. 122 of 1898) issued by the British Admiralty is republished:—

The undermentioned information, relative to certain lights in Zanzibar, has been received from the Port Officer, dated 19th January 1898:—

- (a) A lighthouse is in course of erection on the west side of Chumbe, in approximately lat. $6^{\circ} 16' 45''$ S., long. $39^{\circ} 10' 35''$ E.
- (b) Two red lights are shown at the landing-place at Zanzibar about a cable south-eastward of Ras Shangani, and two green lights at the landing-place about a cable north-eastward of Ras Shangani.

Approximate position, Ras Shangani, lat. $6^{\circ} 9' 45''$ S., long. $39^{\circ} 11' 5''$ E.

- (c) The word "unreliable" written against Mungopani light, in approximately lat. $5^{\circ} 57' 10''$ S., long. $39^{\circ} 10' 50''$ E., has been expunged from the Charts. This light is elevated 113 feet above high water.

The lighthouse is 73 feet in height.

- (d) Mwana Mwana light, in approximately lat. $5^{\circ} 45' 10''$ S., long. $39^{\circ} 18' 10''$ E., is elevated 115 feet above high water.

- (e) Ras Nungwe light, in approximately lat. $6^{\circ} 43' 5''$ S., long. $39^{\circ} 18' 5''$ E., has been altered from a revolving to a fixed light, is elevated 105 feet above high water (as before), and visible in clear weather from a distance of 12 miles.

The lighthouse is 45 feet in height.

(2) *Pemba island—Flagstaffs in Chaki Chaki bay.*

Also, that the undermentioned flagstaffs have been erected in Chaki Chaki bay:—

- (a) On the west side of Mestle island, in approximately lat. $6^{\circ} 14' 25''$ S., long. $39^{\circ} 35' 55''$ E.
- (b) On the east side of Ras Tundauwa, in approximately lat. $5^{\circ} 15' 20''$ S., long. $39^{\circ} 41' 20''$ E.

F. J. FALLE, Comdr., R.N.M.,
Port Officer of Calcutta.

Published for general information.

T. H. CLOWES,
Under-Secretary, Marine Department.

CALCUTTA, the 1st April 1898.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 84.

[First Publication.]

PERSIAN GULF—SHATT-AL-ARAB OR BASRA RIVER.

A dangerous shoal.

THE Officer in charge of the Marine Survey of India has given notice that information has been received from Lieutenant Kendall, R. I. M., Commanding R. I. M. S. *Laurence*, that a very dangerous shoal, varying in depth, forms in the Shatt-al-Arab or Basra river about $5\frac{1}{2}$ cables to the southward of Muhammera Palace below the junction of the Karun and Shatt-al-Arab rivers: Approximate position lat. $30^{\circ} 22' 15''$ N., long. $48^{\circ} 12' 35''$ E. It is at its worst when the rivers Dis and Karun are in flood, independent of the rivers Tigris and Euphrates, and being much modified when these rivers are in flood simultaneously; and barely perceptible when the Euphrates and Tigris are in flood first. It is generally expected about the month of February. The least depth of water at L. W. S. found in February 1898 was 4 feet. The deepest water at that time was between the shoal and Dabba island, by keeping close to the island the least water a vessel would pass over was then 9 feet at L. W. S.

Chart affected:—No. 1235 and Persian Gulf Pilot, 1890, page 295.

P. J. FALLE, Comdr., R.I.M.,
Port Officer of Calcutta.

Published for general information.

CALCUTTA, the 1st April 1898.

T. H. CLOWES,
Under-Secretary, Marine Department.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 85.

[First Publication.]

BAY OF BENGAL—ANDAMAN AND NICOBAR ISLANDS.

Position of certain shoals.

THE Officer in charge of the Marine Survey of India has given notice of the existence of the following shoals:—

No. 1.—A shoal east of 2 fathoms at L. W. springs has been obtained by R. I. M. S. *Nanconry* on the Livermore shoal in the following position:—

Lat. $15^{\circ} 12' 15''$ N., long. $97^{\circ} 40' 39''$ E. with—

Phalein Hill (1610) bearing	...	...	N. 45° E.
Summit of Stag island	...	...	N. 89° E.
Summit of Pig island	...	...	S. 23° E.

No. 2.—A shoal of considerable extent has been discovered with 6 fathoms of water on it lying in lat. $15^{\circ} 04\frac{1}{2}'$ N., long. $97^{\circ} 36'$ E. with—

The summit of Pig island bearing	...	...	S. 84° E.
Phalein Hill (1610)	...	...	N. 38° E.
Kennangi S. Peak	...	...	S. 66° E.

No. 3.—A shoal of considerable extent has been discovered with 6 fathoms of water on it lying in lat. $14^{\circ} 53'$ N., long. $97^{\circ} 20\frac{1}{2}'$ E., with Kennangi (2580) S. Peak bearing N. 81° E., distant $30\frac{1}{2}$ miles.

As none of these shoals have been minutely examined, it is possible less water may exist on them.

All bearings are true.

Charts affected.—Nos. 1272, 823, 830, 70, Sailing Directions, Bay of Bengal Pilot second edition 1892, page 362.

P. J. FALLE, Comdr., R.I.M.,
Port Officer of Calcutta.

Published for general information.

CALCUTTA, the 1st April 1898.

T. H. CLOWES,
Under-Secretary, Marine Department.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 77.

[Second Publication.]

AUSTRALIA, INNER ROUTE—MOORILYAN HARBOUR.

Light on the southern North Barnard island.

THE British Admiralty has given notice (No. 100 of 1898) that a light is exhibited from a lighthouse recently erected on the southern North Barnard island, southern approach to Moorilyan harbour:—

North Barnard island light is a sixth order, group-flashing white light, showing two flashes every ten seconds; elevated 292 feet above high water, and visible approximately from N. $\frac{1}{2}$ E. through north and west, to S.E. $\frac{1}{2}$ E., a distance of 16 miles in clear weather.

The lighthouse, 10 feet high, is a cylindrical lantern standing on a concrete base, painted white.

Approximate position on chart No. 2349, lat. $17^{\circ} 40' 50''$ S., long. $146^{\circ} 11' 0''$ E.

Should the flashing apparatus fail to work at any time, a fixed light, of small power, will be exhibited.

(Variation 6° Easterly in 1898.)

B. P. CREAGH, Comdr., R.I.M.,
Port Officer of Calcutta.

Published for general information.

T. H. CLOWES,
Under-Secretary, Marine Department.

CALCUTTA, the 26th March 1898.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 78.

[Second Publication.]

CHINA SEA—HAINAN STRAIT.

South channel—Alteration in position of Hainan head bank buoy.

THE British Admiralty has given notice (No. 101 of 1898) that, in consequence of the extension of Hainan head bank to the south-westward, Hainan head bank buoy has been moved about 2 cables, W.S.W., from its previous position; and is now moored in a depth of 6 fathoms at low water springs, in a position with Hainan bluff summit (173) bearing S.W. by W. $\frac{1}{2}$ W., distant $1\frac{1}{2}$ miles; and sand-bill (100) south.

Approximate position, lat. $20^{\circ} 9' 55''$ N., long. $110^{\circ} 42' 10''$ E.

(Variation 2° Easterly in 1898.)

B. P. CREAGH, Comdr., R.I.M.,
Port Officer of Calcutta.

Published for general information.

T. H. CLOWES,
Under-Secretary, Marine Department.

CALCUTTA, the 26th March 1898.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 79.

[Second Publication.]

AFRICA, EAST COAST—DELAGOA BAY.

Lighthouse building northward of Cockburn shoal.

THE British Admiralty has given notice (No. 104 of 1898) that information has been received from Lieutenant and Commander J. W. Pochin, H.M.S. *Thrush*, dated 15th January 1898, that works are in progress for the purpose of erecting a lighthouse northward of Cockburn shoal, in a position with Gibbon point beacon bearing S. 23° W., distant $4\frac{1}{2}$ miles and cape Inyack lighthouse S. 21° E.

Approximate position, lat. $25^{\circ} 58' 20''$ S., long. $32^{\circ} 54' 10''$ E.

(Variation 25° Westerly in 1898.)

B. P. CREAGH, Comdr., R.I.M.,
Port Officer of Calcutta.

Published for general information.

T. H. CLOWES,
Under-Secretary, Marine Department.

CALCUTTA, the 26th March 1898.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 80.

[Second Publication.]

JAPAN—SETO UCHI

(1) *Shoal south-eastward of Sei sima.*

THE British Admiralty has given notice (No. 109 of 1898) that the Master of the steam-vessel *Naramaru* reports the existence of a sandy shoal, about a cable in length east and west, with a depth of $2\frac{1}{2}$ fathoms on it at low water springs and 4 to 7 fathoms around, situated in a position with Sei sima summit (300) bearing N.W., distant 5 cables; and Tako saki summit (390) S.W.

Approximate position, lat. $34^{\circ} 21' 0''$ N., long. $133^{\circ} 51' 20''$ E.(2) *Shoal north-westward of Tadotsu.*

Also, of the existence of a shoal, with a depth of 3 fathoms on it at low water springs, extending about 2 cables north-west and south-east, situated in a position with the lantern at Tadotsu bearing S.E. $\frac{1}{2}$ S., distant 9 cables; and Kigasa sima summit (230) S.W. $\frac{1}{2}$ W.

Approximate position, lat. $34^{\circ} 17' 10''$ N., long. $133^{\circ} 43' 35''$ E.(Variation 4° Westerly in 1898.)B. P. CREAGH, Comdr., R.N.M.,
Port Officer of Calcutta.

Published for general information.

T. H. CLOWES,
Under-Secretary, Marine Department.

CALCUTTA, the 26th March 1898.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 81.

[Second Publication.]

JAVA, EAST COAST—BANJUWANGI ROAD.

Existence of a sunken rock.

THE British Admiralty has given notice (No. 111 of 1898) of the existence of a rock, with a depth of $3\frac{1}{2}$ fathoms on it at low water springs, situated southward of Depthford rocks in a position with Banjuwangi lighthouse bearing S. W. $\frac{1}{2}$ W., distant 8 cables.

Approximate position, lat. $8^{\circ} 12' 30''$ S., long. $114^{\circ} 22' 55''$ E.(Variation 2° Easterly in 1898.)B. P. CREAGH, Comdr., R.N.M.,
Port Officer of Calcutta.

Published for general information.

T. H. CLOWES,
Under-Secretary, Marine Department.

CALCUTTA, the 26th March 1898.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 82.

[Second Publication.]

NEW ZEALAND—STEWART ISLAND.

(1) *Paterzen inlet—Sunken rock southward of Kaipipi bay.*

THE British Admiralty has given notice (No. 112 of 1898) of the existence of a pinnacle rock, with a depth of $3\frac{1}{2}$ fathoms on it at low water, and deep water around, situated 11 cables eastward of the south entrance point of Kaipipi bay.

The 5-fathom line round the shore has been extended outside this rock.

Approximate position on plan No. 2541, lat. $46^{\circ} 55' 10''$ S., long. $168^{\circ} 5' 15''$ E.(2) *Sunken rock south-eastward of Codfish island.*

Also, of the existence of a rock of small extent, with a depth of 3 feet on it at low water, situated a third of a mile from the south-east side of Codfish island, in a position with High rock bearing N. E. by N., distant 1 mile.

Approximate position on chart No. 2553, lat. $46^{\circ} 48' 10''$ S., long. $167^{\circ} 42'$ E.(Variation 17° Easterly in 1898.)B. P. CREAGH, Comdr., R.N.M.,
Port Officer of Calcutta.

Published for general information.

T. H. CLOWES,
Under-Secretary, Marine Department.

CALCUTTA, the 26th March 1898.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 64.

[Third Publication.]

CHINA SEA—PHILIPPINES—LUZON.

Manilla bay—Light at St. Nicholas bank.

With reference to Notice to Mariners No. 226, dated 25th November 1895, issued by this office, the British Admiralty has given further notice (No. 83 of 1898) that information has been received that, in the latter part of 1897, a light would be exhibited from this beacon.

St. Nicholas bank light is an electric, flashing white light every minute, thus:—flash, twenty seconds; eclipse, forty seconds; it is elevated 34 feet above high water, and visible from all directions (except in eight small arcs of about 3° each, the bearings of which are not given) a distance of 4 miles in clear weather.

The lighthouse is an iron tower, standing upon a pyramidal base of masonry, situated in a depth of 2 fathoms, the whole showing 36 feet above high water.

Approximate position, lat. 14° 26' 50" N., long. 120° 45' 20" E.

B. P. OREACH, Comdr., R.N.M.,
Port Officer of Calcutta.

Published for general information.

CALCUTTA, the 9th March 1898.

T. H. CLOWES,
Under-Secretary, Marine Department.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT

NOTICE TO MARINERS—No. 65.

[Third Publication.]

PACIFIC OCEAN—CAROLINE ISLANDS.

Yap island.—Light and buoys in port Tomil.

The British Admiralty has given notice (No. 85 of 1898) that the light (fixed red), previously exhibited on the west side of the entrance to port Tomil, has been discontinued, and is not likely to be re-exhibited for some years.

Approximate position, lat. 9° 29' 15" N., long. 138° 4' 20" E.

Also, that buoys have been placed in the undermentioned positions; but as they frequently drift and are not at once replaced, they should not be relied on:—

1. A red buoy and a white buoy at the edge of the reef on the eastern side of the entrance.
2. Two red buoys at the entrance of the channel leading to Buil.
3. A white buoy at the southern extremity of the reef extending southward from Engnoth island.
4. A mooring buoy south-westward of Tarrang island for the use of vessels coaling there.

Note.—Only small vessels, of less than 6 feet draught, can lie alongside the mole at Tarrang island; other vessels moor with an anchor from the bows and the stern secured to the mooring buoy.

B. P. OREACH, Comdr., R.N.M.,
Port Officer of Calcutta.

Published for general information.

CALCUTTA, the 9th March 1898.

T. H. CLOWES,
Under-Secretary, Marine Department.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 66.

[Third Publication.]

BAY OF BENGAL—NICOBAR AND KAMORTA ISLANDS.

Existence of certain dangers in these islands.

The Officer in charge of the Indian Marine Survey has given notice of the existence of the following dangers in the Nicobar islands:—

Great Nicobar.—A depth of 4½ fathoms was obtained in lat. 6° 58' 15" N., long. 93° 40' 00" E., from which the left extreme of the land bore N. 27° W. Mount Thuillier N. 38 E. and Kopenheat point S. 80 E. This patch appeared to be small in extent with less water on it about 2 cables north of the depth of 4½ fathoms.

St. George's channel, Kondul harbour.—A depth of 2½ fathoms was obtained in lat. 7° 11' 45" N., long. 93° 42' 50" E., S. 33° E., 9 cables from the S. E. point of Kondul island and S. 72½ W. 2.2 miles from the village. R. I. M. S. *Elphinstone* when steaming into Kondul harbour from the westward could get no bottom at 17 fathoms close to depths of 11, 18, 6, and 10 fathoms shown in Admiralty Chart No. 840.

Kamorta island.—A depth of 1 fathom was obtained in lat. 8° 07' N., long. 93° 26' E. with the left extreme of the land (Kamorta Id.) bearing N. 9° E. Hill 435 feet N. 77½ E. and Mount Edgecombe 360 feet S. 37° E. A report was made to the Lieutenant in Command R. I. M. S. *Elphinstone* that breakers have been seen W. N. W. of Dring harbour.

All bearings are true.

This Notice affects Chart No. 810, Nicobar islands, and Sailing Directions, Bay of Bengal Pilot, 1892, pages 268, 269 and 272.

B. P. CREAGH, Comdr., R.N.M.,
Port Officer of Calcutta.

Published for general information.

T. H. CLOWES,
Under-Secretary, Marine Department.

CALCUTTA, the 9th March 1898.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 67.

[Third Publication.]

BAY OF BENGAL—BURMA COAST.

Date of exhibition of the 12-mile light.

With reference to Notice to Mariners No. 243, dated 27th December 1897, issued by this Office, a further telegraphic communication has been received from the Port Officer, Rangoon, stating that the 12-mile light on Spit-light-vessel was exhibited from the 28th January last.

B. P. CREAGH, Comdr., R.N.M.,
Port Officer of Calcutta.

Published for general information.

T. H. CLOWES,
Under-Secretary, Marine Department.

CALCUTTA, the 12th March 1898.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 68.

[Third Publication.]

BAY OF BENGAL—BURMA COAST.

Baragua flats light vessel resumed station.

With reference to Notice to Mariners No. 233, dated 14th December 1897, issued by this office, the Port Officer, Rangoon, has given further notice that Baragua flats light-vessel has resumed her station exhibiting original light.—Temporary light-vessel withdrawn.

B. P. CREAGH, Comdr., R.N.M.,
Port Officer of Calcutta.

Published for general information.

T. H. CLOWES,
Under-Secretary, Marine Department.

CALCUTTA, the 12th March 1898.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 69.

[Third Publication.]

BAY OF BENGAL—BURMA COAST.

Gulf of Martaban—Exhibition of Amherst point light postponed.

With reference to Notice to Mariners No. 6, dated 14th January last, the Port Officer, Rangoon, has given further notice that the exhibition of Amherst point light has been postponed to the end of April next.

B. P. CREAGH, Comdr., R.N.M.,
Port Officer of Calcutta.

Published for general information.

T. H. CLOWES,
Under-Secretary, Marine Department.

CALCUTTA, the 12th March 1898.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 70.

[Third Publication.]

SOUTH PACIFIC OCEAN—NEW ZEALAND.

Ice to the south-eastward.

The British Admiralty has given notice (No. 60 of 1898) that information has been received from the Manager of the Shaw Savill and Albion Company and others that large numbers of icebergs have been seen, during the months of November and December 1897,

between the parallels of $46^{\circ} 30'$ and $51^{\circ} 0'$ South latitude and the meridians of 175° E. and 165° W. longitude.

Icebergs in this area are rare, and Mariners are warned to avoid it for the present, if practicable; or to exercise great caution if obliged to pass through it.

B. P. CREAGH, Comdr., R.I.M.,
Port Officer of Calcutta.

Published for general information.

T. H. CLOWES,
Under-Secretary, Marine Department.

CALCUTTA, the 14th March 1898.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 71.

[Third Publication.]

BAY OF BENGAL—ORISSA COAST.

Erratum.—In Notice to Mariners No. 84, dated 9th February, 1898 paragraph 1, lines 2 and 3, for "N. 70° W." read "N. 79° W.", and in paragraph 2, lines 3 and 4, for "transit marks," read "transit marks on."

B. P. CREAGH, Comdr., R.I.M.,
Port Officer of Calcutta.

Published for general information.

T. H. CLOWES,
Under-Secretary, Marine Department.

CALCUTTA, the 14th March 1898.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 72.

[Third Publication.]

INDIA, SOUTH—INDIAN OCEAN.

A large red painted conical buoy with staff adrift.

THE Master of the S.S. *Okara* reports having passed at 0-20 A.M., on the morning of the 4th instant, a large red painted conical buoy with staff, and with white letters on side B.L. or O.L. Position of ship Lat. $8^{\circ} 50'$ S. Long. $72^{\circ} 06'$ E.; current setting N. 49° E. $1\frac{1}{2}$ knots per hour.

B. P. CREAGH, Comdr., R.I.M.,
Port Officer of Calcutta.

Published for general information.

T. H. CLOWES,
Under-Secretary, Marine Department.

CALCUTTA, the 16th March 1898.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 73.

[Third Publication.]

AUSTRALIA, SOUTH—GULF OF ST. VINCENT.

Three buoys placed to mark the passage between Troubridge shoals and the main land.

THE President, Marine Board, Port Adelaide, has given notice (No. 1 of 1898) that to mark the passage between Troubridge Shoals and the mainland, three buoys have been placed, as mentioned hereunder.

1. A red buoy with framework and cone, in 10 ft. of water, L.W.S., on the west edge of the reef at the south entrance, with Troubridge lighthouse bearing N. 65° E. and Hungry Point N. 7° E.

2. On the south end of a sand spit in mid-channel a chequered buoy with framework and cone, in 12 ft. of water, L.W.S., Troubridge lighthouse bearing N. 80° E., Hungry Point N. 45° W.

3. On the north-west edge of the shoal off Troubridge Island a red buoy with framework and cone, in $2\frac{1}{2}$ fathoms of water Troubridge lighthouse bearing S. 62° E., Hungry Point S. 58° W.

All bearings correct magnetic.

This affects Admiralty chart No. 2389A and plan No. 2152.

B. P. CREAGH, Comdr., R.I.M.,
Port Officer of Calcutta.

Published for general information.

T. H. CLOWES,
Under-Secretary, Marine Department.

CALCUTTA, the 16th March 1898.

GOVERNMENT OF BENGAL,—MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 74.

[Third Publication.]

BAY OF BENGAL—BURMA COAST.

A sunken native vessel.

A TELEGRAPHIC communication has been received from the Port Officer, Rangoon, stating that the Master of the steamer *Zulu* reports having passed a sunken native vessel with deck load of bamboos above water, and mast standing, in Lat. $10^{\circ} 12' N.$, Long. $86^{\circ} 55' E.$

B. P. CREAGH, Comdr., R.I.M.,
Port Officer of Calcutta.

Published for general information.

T. H. CLOWES,
Under-Secretary, Marine Department.

CALCUTTA, the 17th March 1898.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 75.

[Third Publication.]

AUSTRALIA—PIONEER RIVER.

New entrance thereto.

THE Port Master, Brisbane, has given notice (No. 6 of 1898) that the recent cyclone and floods at Mackay, Pioneer River, have breached East Point Spit, creating a new entrance and partially closing the main channel.

The new entrance will be marked for navigation as soon as possible, and due notice will be given; in the meantime masters of vessels are cautioned not to attempt to enter the river without a pilot.

Chart affected, No. 847.

Australia Directory, Vol. 2, page 246.

B. P. CREAGH, Comdr., R.I.M.,
Port Officer of Calcutta.

Published for general information.

T. H. CLOWES,
Under-Secretary, Marine Department.

CALCUTTA, the 21st March 1898.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 76.

[Third Publication.]

AUSTRALIA.

Caution—Icebergs.

THE Port Master, Brisbane, has given notice (No. 7 of 1898) that advices have been received from the Admiralty stating that numerous Icebergs will be encountered between Latitude $46^{\circ} 30' S.$ and Latitude $52^{\circ} S.$, and between the meridians of $75^{\circ} E.$ and $165^{\circ} W.$

Mariners intending to pass the area indicated are cautioned accordingly.

B. P. CREAGH, Comdr., R.I.M.,
Port Officer of Calcutta.

Published for general information.

T. H. CLOWES,
Under-Secretary, Marine Department.

CALCUTTA, the 21st March 1898.



APPENDIX TO
The Calcutta Gazette.

WEDNESDAY, APRIL 13, 1898.

NOTICES TO MARINERS.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 86.

[First Publication.]

NEW ZEALAND—NORTH ISLAND, KAIPARA HARBOUR.

Alterations in leading beacons.

The British Admiralty has given notice (No. 125 of 1898) that the leading beacons on North head, Kaipara Harbour, were then being taken down; the two upper (north-eastern) beacons would be re-erected about one mile westward of their previous positions, and the lower (previous south-western) beacon would be discontinued.

Approximate new position, rear beacon, lat. $36^{\circ} 22' 15''$ S., long. $174^{\circ} 6' 55''$ E.

Notes.—Further notice will be given when the beacons have been re-erected; in the meantime Kaipara Harbour should be entered with great caution, and particular attention should be paid to any signals made from the station near the light-house.

P. J. FALLS, *Comdr., R.N.M.,*
Port Officer of Calcutta.

Published for general information.

Calcutta, the 7th April 1898.

T. H. CLOWES,
Under-Secretary, Marine Department.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 87.

[First Publication.]

NEW ZEALAND—COOK STRAIT.

Port Nicholson—Intended fog signal on Pencarrow Head.

The British Admiralty has given notice (No. 126 of 1898) that a fog signal apparatus is in course of erection in a position 384 feet, S. W., from Pencarrow head light-house, and at an elevation of 145 feet above the sea.

The fog signal will be explosive, and experiments may be made with it previous to its permanent establishment, of which last further notice will be given.

Approximate position, lat. $41^{\circ} 21' 40''$ S., long. $174^{\circ} 52'$ E.

P. J. FALLS, *Comdr., R.N.M.,*
Port Officer of Calcutta.

Published for general information.

Calcutta, the 7th April 1898.

T. H. CLOWES,
Under-Secretary, Marine Department.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 88.

[First Publication.]

AFRICA, EAST—RED SEA, WESTERN SHORE.

Masawa Harbour—Alterations in positions of Seraglio Island Lights.

THE British Admiralty has given notice (No. 127 of 1898) that the two red lights previously shown on either side of the base of the Palace central dome, Seraglio island, have been moved, so that they are now leading lights for entering Masawa Harbour:—

1. The front light is shown from a staff at the edge of the quay, at an elevation of 40 feet above the sea, in a position with the French Consulate bearing about S.E. $\frac{1}{4}$ E., distant $2\frac{1}{4}$ cables; and north-east angle of Taoualoud Fort S.W. $\frac{1}{4}$ S.

Approximate position, lat. $15^{\circ} 36' 45''$ N., long. $39^{\circ} 26' 50''$ E.

2. The rear light is shown from the terrace at the north-east angle of the Colonial palace, at an elevation of 72 feet above the sea, and in a position bearing S. 67° W., distant 126 yards, from the front light.

NOTE.—The above lights in line, bearing S. 67° W., lead into Masawa Harbour midway between the buoys at the entrance.

(Variation 4° Westerly in 1898.)

P. J. FALLER, Comdr., R.N.M.,
Port Officer of Calcutta.

Published for general information.

T. H. CLOWES,

CALCUTTA, the 7th April 1898.

Under-Secretary, Marine Department.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 89.

[First Publication.]

EASTERN ARCHIPELAGO—BORNEO, SOUTH COAST.

Amended depth on shoal southward of Melataor Point.

THE British Admiralty has given notice (No. 133 of 1898) that a depth of 14 feet, at low water springs, has been found on the shoal, previously marked 3 fathoms on the Chart, situated in a position bearing S. 9° E., distant 20 miles, from Melataor (Melatayor) Point.

Approximate position, lat. $3^{\circ} 46'$ S., long. $114^{\circ} 38'$ E.

(Variation 8° Easterly in 1898.)

P. J. FALLER, Comdr., R.N.M.,
Port Officer of Calcutta.

Published for general information.

T. H. CLOWES,

CALCUTTA, the 7th April 1898.

Under-Secretary, Marine Department.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 90.

[First Publication.]

CHINA SEA—GULF OF SIAM.

Light on Koh Chuen exhibited.

WITH reference to Notice to Mariners No. 110, dated 28th May 1897, issued by this office, the British Admiralty has given further notice (No. 134 of 1898) that further information has been received that a light is exhibited from the light-house recently erected near the summit of Koh Chuen, eastern side of the head of the Gulf of Siam:—

Koh Chuen light is a second order, group-flashing white light with a period of twenty seconds, thus:—flash, one and a half seconds; eclipse, three and a half seconds; flash, one and a half seconds; eclipse, thirteen and a half seconds; it is elevated 486 feet above the sea, and visible from a distance of 29 miles in clear weather. In addition to the main light, a subsidiary fixed red light is shown over Hin Chalan, the rock to the southward.

The light-house is coloured white.

Approximate position, lat. $12^{\circ} 31' 10''$ N., long. $100^{\circ} 56' 10''$ E.

P. J. FALLER, Comdr., R.N.M.,
Port Officer of Calcutta.

Published for general information.

T. H. CLOWES,

CALCUTTA, the 7th April 1898.

Under-Secretary, Marine Department.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.
NOTICE TO MARINERS—No. 91.

[First Publication.]

INDIA, SOUTH—CEYLON, SOUTH COAST.

Bell Buoy at the eastern entrance to Galle Harbour shifted.

The Master attendant at Galle has given notice, dated 12th February 1898, that the Bell Buoy marking the Cadda Rocks at the eastern entrance to Galle Harbour, will, on April 15th next, be shifted due south of its present position as charted, a distance of one and half cables, and moored in 12½ fathoms, distant 238 fathoms by measurement from the outer Cadda Rock in a south half east direction. Commanders of steamers approaching the Port are requested to note this and keep a position clear of the buoy until the Pilot shows his flag (white, red and white) horizontal, when it is safe to steer for the Pilot's canoe. If under sail, the canoe is distinguishable by the letter P on it, with the Pilot flag displayed above; should the buoy be out of position, the usual signals from the flag-staff will be hoisted to that effect.

P. J. FALLER, Comdr., R.N.M.,
Port Officer of Calcutta.

Published for general information.

T. H. CLOWES,
Under-Secretary, Marine Department.

CALCUTTA, the 7th April 1898.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.
NOTICE TO MARINERS—No. 92.

[Second Publication.]

AFRICA, EAST COAST—ZANZIBAR AND PEMBA ISLANDS.

(1) *Zanzibar island—Information on certain lights.*

The following Notice to Mariners (No. 122 of 1898) issued by the British Admiralty is republished:—

The undermentioned information, relative to certain lights in Zanzibar, has been received from the Port Officer, dated 19th January 1898:—

- (a) A lighthouse is in course of erection on the west side of Ohumbe, in approximately lat. $6^{\circ} 16' 45''$ S., long. $39^{\circ} 10' 35''$ E.
- (b) Two red lights are shown at the landing-place at Zanzibar about a cable south-eastward of Ras Shangani, and two green lights at the landing-place about a cable north-eastward of Ras Shangani.

Approximate position, Ras Shangani, lat. $6^{\circ} 9' 45''$ S., long. $39^{\circ} 11' 5''$ E.

- (c) The word "unreliable" written against Mungopani light, in approximately lat. $5^{\circ} 57' 10''$ S., long. $39^{\circ} 10' 50''$ E., has been expunged from the Charts. This light is elevated 113 feet above high water.

The lighthouse is 73 feet in height.

- (d) Mwana Mwana light, in approximately lat. $5^{\circ} 45' 10''$ S., long. $39^{\circ} 18' 10''$ E., is elevated 115 feet above high water.

- (e) Ras Nungwa light, in approximately lat. $5^{\circ} 48' 5''$ S., long. $39^{\circ} 18' 5''$ E., has been altered from a revolving to a fixed light, is elevated 105 feet above high water (as before), and visible in clear weather from a distance of 12 miles.

The lighthouse is 45 feet in height.

(2) *Pemba island—Flagstaffs in Chaki Chaki bay.*

Also, that the undermentioned flagstaffs have been erected in Chaki Chaki bay:—

- (a) On the west side of Mesale island, in approximately lat. $5^{\circ} 14' 25''$ S., long. $39^{\circ} 35' 55''$ E.
- (b) On the east side of Ras Tundakwa, in approximately lat. $5^{\circ} 15' 20''$ S., long. $39^{\circ} 41' 20''$ E.

P. J. FALLER, Comdr., R.N.M.,
Port Officer of Calcutta.

Published for general information.

T. H. CLOWES,
Under-Secretary, Marine Department.

CALCUTTA, the 1st April 1898.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 84.

[Second Publication.]

PERSIAN GULF—SHATT-AL-ARAB OR BASRA RIVER.

A dangerous shoal.

THE Officer in charge of the Marine Survey of India has given notice that information has been received from Lieutenant Kendall, R. I. M., Commanding R. I. M. S. *Laurens*, that a very dangerous shoal, varying in depth, forms in the Shatt-al-Arab or Basra river about 5½ cables to the southward of Muhammera Palace below the junction of the Karun and Shatt-al-Arab rivers: Approximate position lat. $36^{\circ} 22' 15''$ N., long. $48^{\circ} 12' 35''$ E. It is at its worst when the rivers Dis and Karun are in flood, independent of the rivers Tigris and Euphrates, and being much modified when these rivers are in flood simultaneously; and barely perceptible when the Euphrates and Tigris are in flood first. It is generally expected about the month of February. The least depth of water at L. W. S. found in February 1895 was 4 feet. The deepest water at that time was between the shoal and Dabba island, by keeping close to the island the least water a vessel would pass over was then 9 feet at L. W. S.

Chart affected:—No. 1235 and Persian Gulf Pilot, 1890, page 295.

P. J. FALLE, Comdr., R.I.M.,
Port Officer of Calcutta.

Published for general information.

T. H. CLOWES,
Under-Secretary, Marine Department.

CALCUTTA, the 1st April 1898.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 85.

[Second Publication.]

BAY OF BENGAL—ANDAMAN AND NICOBAR ISLANDS.

Position of certain shoals.

THE Officer in charge of the Marine Survey of India has given notice of the existence of the following shoals:—

No. 1.—A shoal east of 2 fathoms at L. W. springs has been obtained by R. I. M. S. *Naucoory* on the Livermore shoal in the following position:—

Lat. $15^{\circ} 12' 15''$ N., long. $97^{\circ} 40' 39''$ E. with—

Phalein Hill (1610) bearing	...	...	N. 45° E.
Summit of Stag island	...	...	N. 89° E.
Summit of Pig island	...	...	S. 23° E.

No. 2.—A shoal of considerable extent has been discovered with 6 fathoms of water on it lying in lat. $15^{\circ} 04\frac{1}{2}'$ N., long. $97^{\circ} 36'$ E. with—

The summit of Pig island bearing	...	...	S. 84° E.
Phalein Hill (1610)	...	...	N. 38° E.
Kennangi S. Peak	...	...	S. 65° E.

No. 3.—A shoal of considerable extent has been discovered with 6 fathoms of water on it lying in lat. $14^{\circ} 53'$ N., long. $97^{\circ} 20\frac{1}{2}'$ E., with Kennangi (2580) S. Peak bearing N. 81° E., distant $30\frac{1}{2}$ miles.

As none of these shoals have been minutely examined, it is possible less water may exist on them.

All bearings are true.

Charts affected.—Nos. 1272, 823, 830, 70, Sailing Directions, Bay of Bengal Pilot second edition 1892, page 362.

P. J. FALLE, Comdr., R.I.M.,
Port Officer of Calcutta.

Published for general information.

T. H. CLOWES,
Under-Secretary, Marine Department.

CALCUTTA, the 1st April 1898.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 77.

[Third Publication.]

AUSTRALIA, INNER ROUTE—MOORILYAN HARBOUR.

Light on the southern North Barnard island.

The British Admiralty has given notice (No. 100 of 1898) that a light is exhibited from a lighthouse recently erected on the southern North Barnard island, southern approach to Moorilyan harbour:—

North Barnard island light is a sixth order, group-flashing white light, showing two flashes every ten seconds; elevated 292 feet above high water, and visible approximately from N. $\frac{1}{2}$ E., through north and west, to S.E. $\frac{1}{2}$ E., a distance of 16 miles in clear weather.

The lighthouse, 10 feet high, is a cylindrical lantern standing on a concrete base, painted white.

Approximate position on chart No. 2949, lat. $17^{\circ} 40' 50''$ S., long. $146^{\circ} 11' 0''$ E.

Should the flashing apparatus fail to work at any time, a fixed light, of small power, will be exhibited.

(Variation 6° Easterly in 1898.)

B. P. CREAGH, Comdr., R.I.M.,
Port Officer of Calcutta.

Published for general information.

T. H. CLOWES,
Under-Secretary, Marine Department.

CALCUTTA, the 26th March 1898.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 78.

[Third Publication.]

CHINA SEA—HAINAN STRAIT.

South channel—Alteration in position of Hainan head bank buoy.

The British Admiralty has given notice (No. 101 of 1898) that, in consequence of the extension of Hainan head bank to the south-westward, Hainan head bank buoy has been moved about 2 cables, W.S.W., from its previous position; and is now moored in a depth of 6 fathoms at low water springs, in a position with Hainan bluff summit (173) bearing S.W. by W. $\frac{1}{2}$ W., distant $1\frac{1}{2}$ miles; and sand-bill (100) south.

Approximate position, lat. $20^{\circ} 9' 55''$ N., long. $110^{\circ} 42' 10''$ E.

(Variation 2° Easterly in 1898.)

B. P. CREAGH, Comdr., R.I.M.,
Port Officer of Calcutta.

Published for general information.

T. H. CLOWES,
Under-Secretary, Marine Department.

CALCUTTA, the 26th March 1898.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 79.

[Third Publication.]

AFRICA, EAST COAST—DELAGOA BAY.

Lighthouse building northward of Cockburn shoal.

The British Admiralty has given notice (No. 104 of 1898) that information has been received from Lieutenant and Commander J. W. Pochin, H.M.S. *Thrush*, dated 15th January 1898, that works are in progress for the purpose of erecting a lighthouse northward of Cockburn shoal, in a position with Giblon point beacon bearing S. 23° W., distant $4\frac{1}{2}$ miles and cape Inyack lighthouse S. 21° E.

Approximate position, lat. $25^{\circ} 53' 20''$ S., long. $32^{\circ} 54' 10''$ E.

(Variation 25° Westerly in 1898.)

B. P. CREAGH, Comdr., R.I.M.,
Port Officer of Calcutta.

Published for general information.

T. H. CLOWES,
Under-Secretary, Marine Department.

CALCUTTA, the 26th March 1898.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 80.

[Third Publication.]

JAPAN—SETO UCHI.

(1) *Shoal south-eastward of Sei sima.*

THE British Admiralty has given notice (No. 109 of 1898) that the Master of the steam-vessel *Naramaru* reports the existence of a sandy shoal, about a cable in length east and west, with a depth of $2\frac{1}{2}$ fathoms on it at low water springs and 4 to 7 fathoms around, situated in a position with Sei sima summit (360) bearing N.W., distant 5 cables; and Take saki summit (390) S.W.

Approximate position, lat. $34^{\circ} 21' 0''$ N., long. $133^{\circ} 51' 20''$ E.

(2) *Shoal north-westward of Tadotsu.*

Also, of the existence of a shoal, with a depth of 3 fathoms on it at low water springs, extending about 2 cables north-west and south-east, situated in a position with the lantern at Tadotsu bearing S.E. $\frac{1}{2}$ S., distant 9 cables; and Kigasa sima summit (230) S.W. $\frac{1}{2}$ W.

Approximate position, lat. $34^{\circ} 17' 10''$ N., long. $135^{\circ} 43' 35''$ E.

(Variation 4° Westerly in 1898.)

B. P. CREAGH, Comdr., R.N.M.,
Port Officer of Calcutta.

Published for general information.

T. H. CLOWES,
Under-Secretary, Marine Department.

CALCUTTA, the 26th March 1898.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 81.

[Third Publication.]

JAVA, EAST COAST—BANJUWANGI ROAD.

Existence of a sunken rock.

THE British Admiralty has given notice (No. 111 of 1898) of the existence of a rock, with a depth of $3\frac{1}{2}$ fathoms on it at low water springs, situated southward of Depthford rocks in a position with Banjuwangi lighthouse bearing S.W. $\frac{1}{2}$ W., distant 3 cables.

Approximate position, lat. $8^{\circ} 12' 30''$ S., long. $114^{\circ} 22' 55''$ E.

(Variation 2° Easterly in 1898.)

B. P. CREAGH, Comdr., R.N.M.,
Port Officer of Calcutta.

Published for general information.

T. H. CLOWES,
Under-Secretary, Marine Department.

CALCUTTA, the 26th March 1898.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 82.

[Third Publication.]

NEW ZEALAND—STEWART ISLAND.

(1) *Patersen inlet—Sunken rock southward of Kaipipi bay.*

THE British Admiralty has given notice (No. 112 of 1898) of the existence of a pinnacle rock, with a depth of $3\frac{1}{2}$ fathoms on it at low water, and deep water around, situated $1\frac{1}{2}$ cables eastward of the south entrance point of Kaipipi bay.

The 5-fathom line round the shore has been extended outside this rock.

Approximate position on plan No. 2541, lat. $46^{\circ} 55' 10''$ S., long. $168^{\circ} 5' 15''$ E.

(2) *Sunken rock south-eastward of Codfish island.*

Also, of the existence of a rock of small extent, with a depth of 3 feet on it at low water, situated a third of a mile from the south-east side of Codfish island, in a position with High rock bearing N.E. by N., distant 1 mile.

Approximate position on chart No. 2558, lat. $46^{\circ} 48' 10''$ S., long. $167^{\circ} 42''$ E.

(Variation 17° Easterly in 1898.)

B. P. CREAGH, Comdr., R.N.M.,
Port Officer of Calcutta.

Published for general information.

T. H. CLOWES,
Under-Secretary, Marine Department.

CALCUTTA, the 26th March 1898.



APPENDIX TO

The Calcutta Gazette.

WEDNESDAY, APRIL 20, 1898.

NOTICES TO MARINERS.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 92.

[First Publication.]

AUSTRALIA—EAST COAST.

(1) *Cleveland Bay—Light near quarantine station jetty.*

The British Admiralty has given notice (No. 196 of 1898) that a *fixed white light* of small power, visible between the bearings of N. 73° E. (over No. 2, black buoy) and N. 84° E. (over black, cage buoy), is shown from a platform, situated near the quarantine station jetty, on the west side of Magnetic island.

Approximate position, lat. 19° 8' 15" S., long. 146° 47' 5" E.

(2) *Prince of Wales Channel—Beacon on Ipili Reef blown down.*

Also, that the beacon on Ipili reef, northward of the east end of Goode island, has been blown down. It would be re-erected as soon as possible, of which further Notice will be given.

Approximate position, lat. 10° 32½' 0" S., long. 142° 10' 15" E.

(Variation 7° Easterly in 1898.)

P. J. FALLE, Comdr., R.N.M.,
Port Officer of Unkutta.

Published for general information.

T. H. CLOWE,
Under-Secretary, Marine Department.

Calcutta, the 16th April 1898.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 92.

[First Publication.]

JAPAN—KIUSIU.

Karatsu no ura—Sunken rocks.

The British Admiralty has given notice (No. 137 of 1898) of the existence of the undermentioned sunken rocks, in the north-eastern part of Karatsu no ura, northern coast of Kiusiu:—

1. A rock, named Tsuten se, with a depth of 3 fathoms on it, situated with the west extreme of Keya saki bearing N. by W. ½ W., distant 2½ miles; and Ko Fusi yama (1267) N. E. by E. ½ E.

Approximate position, lat. 33° 32' 50" N., long. 130° 6' 0" E.

2. A rock, with a depth of 5 fathoms on it, situated in a position bearing S. E. $\frac{1}{2}$ S., distant $11\frac{1}{2}$ cables from rock (1); or with Keya saki bearing N. N. W. $\frac{1}{2}$ W., distant $3\frac{1}{2}$ miles.

Rocks above and below water extend about 8 cables southward of the point projecting from the middle of the north shore of Funago shi.

(Variation 4° Westerly in 1898.)

P. J. FALLER, Comdr., R.I.M.,
Port Officer of Calcutta.

Published for general information.

T. H. CLOWES,

CALCUTTA, the 16th April 1898.

Under-Secretary, Marine Department.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 94.

[First Publication.]

PERSIAN GULF, WESTERN SHORE—BAHRAIN HARBOUR.

Amended depth on shoal to the north-eastward.

THE British Admiralty has given notice (No. 138 of 1898) that information has been received from the Commander of the R.I.M. steam-vessel *Lawrence*, dated 9th February 1898, that he obtained soundings of $4\frac{1}{2}$ and $4\frac{3}{4}$ fathoms, on the shoal hitherto marked with 5-fathom depths on the Chart, situated in a position bearing N.N.E. $\frac{1}{2}$ E., distant 22 miles, from the northern point of Muharrak island eastern side of Bahrain harbour.

Approximate position, lat. $26^{\circ} 37' N.$, long. $50^{\circ} 50' E.$

The words "Depths of $4\frac{1}{2}$ and $4\frac{3}{4}$ fathoms reported on this shoal" have been written on the Chart against the above shoal.

(Variation nil in 1898.)

P. J. FALLER, Comdr., R.I.M.,
Port Officer of Calcutta.

Published for general information.

T. H. CLOWES,

CALCUTTA, the 16th April 1898.

Under-Secretary, Marine Department.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 95.

[First Publication.]

EASTERN ARCHIPELAGO—JAVA, NORTH COAST.

Batavia approach—Sunken rock south-eastward of Rotterdam island.

THE British Admiralty has given notice (No. 139 of 1898) of the existence of a rock, about three-quarters of a cable in extent, with a depth of 2 fathoms on it, and 9 fathoms near, situated with the south extreme of Rotterdam island bearing N. 71° W., distant 3 cables.

Approximate position, lat. $6^{\circ} 0' 10'' S.$, long. $106^{\circ} 44' 50'' E.$

(Variation 1° Easterly in 1898.)

P. J. FALLER, Comdr., R.I.M.,
Port Officer of Calcutta.

Published for general information.

T. H. CLOWES,

CALCUTTA, the 16th April 1898.

Under-Secretary, Marine Department.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 96.

[First Publication.]

AFRICA, EAST—RED SEA, WESTERN SHORE.

Shab Shakhe buoy missing.

THE British Admiralty has given notice (No. 140 of 1898) that information has been received from Lieutenant and Commander H. J. Gedge, H.M. surveying vessel *Stork*, that, on passing the spit extending off Shab Shakhe, on 31st January 1898, the buoy (conical, red) previously marking the extremity of the spit was not in position, nor could it be seen either northward or southward of the locality.

Approximate position, extremity of spit, lat. $14^{\circ} 41\frac{1}{2}' N.$, long. $41^{\circ} 6' E.$

P. J. FALLER, Comdr., R.I.M.,
Port Officer of Calcutta.

Published for general information.

T. H. CLOWES,

CALCUTTA, the 16th April 1898.

Under-Secretary, Marine Department.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 97.

[First Publication.]

AFRICA, EAST COAST—DELAGOA BAY.

Gibbon point beacon fallen down.

The British Admiralty has given notice (No. 141 of 1898) that Gibbon point beacon has fallen down, and a new beacon would be erected there.

Approximate position, lat. $25^{\circ} 58' 5''$ S., long. $32^{\circ} 54' 10''$ E.

P. J. FALLER, Comdr., R.N.M.,
Port Officer of Calcutta.

Published for general information.

T. H. CLOWSE,
Under-Secretary, Marine Department.

Calcutta, the 16th April 1898.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 98.

[First Publication.]

SOUTH PACIFIC OCEAN.

Particulars of certain banks.

The British Admiralty has given notice (No. 145 of 1898) that the undermentioned particulars of certain banks in the South Pacific Ocean are derived from recent examinations by Captain A. Mostyn Field, H.M. surveying vessel *Penguin* :—

- (1) LALLA ROOKH BANK, originally discovered and sounded on by Sir Edward Home, H.M.S. *North Star*, is $3\frac{1}{2}$ miles long north-east and south-west, with an extreme breadth of $1\frac{1}{2}$ miles.

The north-east end of the bank is in approximately lat. $12^{\circ} 54' 30''$ S., long. $175^{\circ} 38'$ W., with general depths of 10 to 14 fathoms on it, over a sand and coral bottom.

The central portion of the bank is slightly deeper than the rim, but not very markedly so. From the edge the soundings drop down steeply to depths between 200 and 300 fathoms.

Whilst at anchor on this bank (October 1897) the current was found to set between W.N.W. and S.S.E., from a half to one and a quarter knots. The southerly set was most pronounced between 3h. and 8h. after high water at Wallis island.

- (2) HOME KNOLL, named after Captain Sir Edward Home, was found by H.M.S. *Penguin* while searching for Lalla Rookh bank.

It is a small coral knoll, extending east and west about one mile between the 100-fathom limits, by little more than half a mile in breadth, with a least depth of 10 fathoms on it, and general depths of 12 to 16 fathoms, over a sand and coral bottom.

Its centre is in approximately lat. $12^{\circ} 54\frac{1}{2}'$ S., long. $175^{\circ} 36\frac{1}{2}'$ W., and it is situated one mile eastward from the north-east end of Lalla Rookh bank with soundings of from 200 to 300 fathoms between.

The 1,000-fathom line encircles the two banks, Lalla Rookh and Home knoll, at distances varying from $1\frac{1}{2}$ to 3 miles.

- (3) PASCO BANK, reported by several vessels as situated between Savaii and Wallis islands, and marked "7 P. D." on the Admiralty Charts, is 5 miles in width at its eastern end, from whence it extends nearly 20 miles in a westerly direction, narrowing to a width of 3 miles in its centre, westward of which it contracts to a breadth of three-quarters of a mile, thence broadening out and forming a narrow ridge.

The general depths in the centre are from 22 to 27 fathoms, sand and coral, with a shallow rim of growing coral running round its outer margin, having depths of 8 to 10 fathoms on it. The shallowest soundings, $7\frac{1}{2}$ fathoms, were found on the southern edge of the bank, where it is most contracted in width. On all sides it drops down steeply into depths of from 200 to 400 fathoms.

The western extreme of this bank is situated in approximately lat. $13^{\circ} 4' 30''$ S., long. $174^{\circ} 37\frac{1}{2}'$ W.

Whilst at anchor on this bank (October 1897) the current was found to set from N.W. to S.W. from a half to one and a quarter knots.

- (4) **FIELD BANK**, probably identical with a bank reported in 1874 by Captain Turpie of the Missionary barque *John Williams*, was examined by H.M.S. *Penguin* in October 1897, and as there is already a Turpie bank in this vicinity, the name of Field has been given to it.

Its eastern extremity is situated in approximately lat. $12^{\circ} 16\frac{1}{2}'$ S., long. $174^{\circ} 43\frac{1}{2}'$ W., and the bank thence extends W. by S. $\frac{1}{2}$ S. for $6\frac{1}{2}$ miles, with a breadth of $2\frac{1}{2}$ miles towards the centre, and contracted at the eastern end to a narrow ridge, which is 2 miles long and barely half a mile in width.

The least water found was 13 fathoms, situated on its northern edge; the general depths over the shallow rim encircling the bank range from 14 to 16 fathoms, and the depths in the centre from 18 to 21 fathoms, over a sand and coral bottom.

The edge of the bank drops steeply on all sides into depths of from 200 to 300 fathoms.

It lies S.W. by S., distant 14 miles, from Tavuni bank, with soundings of upwards of 1,200 fathoms between.

The shoal to which the name Turpie was attached having been previously shown 50 miles northward of this position on the Admiralty Chart, a search was made by the *Penguin* over a considerable area in that locality, but no sign of shoal water was found there. It has therefore been expunged.

- (5) **TAVUNI BANK**, originally reported by the schooner of that name, is a small oval-shaped bank of sand and coral, 2 miles long. E. $\frac{1}{2}$ N. and W. $\frac{1}{2}$ S., within the 100-fathom limits, and upwards of a mile broad.

Its centre is situated in lat. $12^{\circ} 6'$ S., long. $174^{\circ} 34\frac{1}{2}'$ W. The least water found by H.M.S. *Penguin* was 9 fathoms, the depth over the greater portion of the bank ranging from 11 to 14 fathoms.

Outside the 20-fathom line it drops steeply down to depths of over 100 fathoms, the 1,000-fathom line maintaining a distance of 2 miles from it all round.

Whilst at anchor on this bank (September 1897) the current was setting N.W., half a knot.

- (6) **ROBBIE BANK**, originally reported by the Master of the schooner *Tavuni* in 1888, is nearly circular in shape, 8 miles in diameter, and situated with its centre in approximately lat. $11^{\circ} 3'$ S., long. $176^{\circ} 53'$ W.

It is composed of sand and coral, and is of the usual atoll-like formation, which is such a common feature in all these banks, having general depths of 26 to 29 fathoms over its central portion, with a shallower rim, running round the edge, of growing coral, about one mile in width within the 20-fathom line, with depths of 10 to 15 fathoms over it.

The shallowest part is on the north-western edge where this rim rises to depths of 7 and 8 fathoms for a distance of about 2 miles along its periphery.

The edge of this bank drops down steeply on all sides, within a very short distance, to depths of from 200 to 300 fathoms.

Whilst at anchor on this bank (November 1897) the current varied considerably. East and S. E. currents, from a half to three-quarters of a knot, occasionally setting to windward against a fresh E.N.E. wind.

- (7) **ADOLPH KNOLL**, originally reported by the German schooner *Adolph*, is a small coral bank, one mile in extent, rising steeply from depths of 300 to 400 fathoms, with a least depth of 15 fathoms on it on its western side.

Its centre is situated in approximately lat. $11^{\circ} 54\frac{1}{2}'$ S., long. $178^{\circ} 9\frac{1}{2}'$ W. and it bears S.E., distant 3 miles, from Tuscarora bank, with soundings of from 300 to 400 fathoms between.

- (8) **TUSCARORA BANK**, discovered by H.M.S. *Penguin*, is situated with its centre in approximately lat. $11^{\circ} 48\frac{1}{2}'$ S., long. $178^{\circ} 14'$ W.

It is 10 miles long, east and west, and about 6 miles broad, having depths of 26 to 29 fathoms, sand and coral, over its central portions, with a shallower rim of growing coral, over which the general depths are 20 to 22 fathoms.

On the south-western edge there is a shallower patch of 14 fathoms, and on the northern edge a patch of 16 to 18 fathoms. The bank drops down steeply on all sides into depths of more than 200 fathoms.

Whilst at anchor on this bank (November 1897) the current varied in direction between W.N.W. and South, with a rate of from a quarter to one knot. The southerly current commenced with great regularity each day 3 hours after the moon's passage and continued for 6 hours, showing that these variations are due to tide.

Both the Adolph knoll and the Tuscarora bank appear to stand on an extensive deep bank, the 1,000-fathom limit of which it was not practicable to determine.

NOTE.—Captain Field remarks that in no single instance was the presence of any of these banks detected from the masthead, although the conditions for doing so were usually favourable, and in addition to the ordinary “look out,” a Fijian, familiar with the appearance of coral water, was always stationed at the masthead.

Charts Nos. 780, 1829 and 1830 have been cancelled.

P. J. FALLE, Comdr., R.N.M.,
Port Officer of Calcutta.

Published for general information.

T. H. CLOWES,
Under-Secretary, Marine Department.

CALCUTTA, the 16th April 1898.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 99.

[First Publication.]

PACIFIC OCEAN—PHILIPPINES—LUZON ISLAND.

Port Kavite—Light on Sangley point.

THE British Admiralty has given notice (No. 147 of 1898) that a light is exhibited provisionally from the old, iron framework lighthouse on Sangley point:—

Sangley point light is a cata-dioptric, fixed red light, elevated 34 feet above high water, 28 feet above the ground, and visible from N. 89° E., through east and south, to N. 31° W. (an arc of 240), a distance of 8 miles in clear weather.

Approximate position on plan No. 975, lat. 14° 29' 53" N., long. 120° 54' 40" E.

NOTE.—Sangley point is extending to the eastward, and the above light is eventually to be shifted nearer to the extremity of the point. Further Notice will be given when this change is carried out.

(Variation 1° Easterly in 1898.)

P. J. FALLE, Comdr., R.N.M.,
Port Officer of Calcutta.

Published for general information.

T. H. CLOWES,
Under-Secretary, Marine Department.

CALCUTTA, the 16th April 1898.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 86.

[Second Publication.]

NEW ZEALAND—NORTH ISLAND, KAIPARA HARBOUR.

Alterations in leading beacons.

THE British Admiralty has given notice (No. 125 of 1898) that the leading beacons on North head, Kaipara Harbour, were then being taken down; the two upper (north-eastern) beacons would be re-erected about one mile westward of their previous positions, and the lower (previous south-western) beacon would be discontinued.

Approximate new position, rear beacon, lat. 36° 22' 15" S., long. 174° 6' 55" E.

NOTE.—Further notice will be given when the beacons have been re-erected; in the meantime Kaipara Harbour should be entered with great caution, and particular attention should be paid to any signals made from the station near the light-house.

P. J. FALLE, Comdr., R.N.M.,
Port Officer of Calcutta.

Published for general information.

T. H. CLOWES,
Under-Secretary, Marine Department.

CALCUTTA, the 7th April 1898.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 87.

[Second Publication.]

NEW ZEALAND—COOK STRAIT.

Port Nicholson—Intended fog signal on Pencarrow Head.

THE British Admiralty has given notice (No. 126 of 1898) that a fog signal apparatus is in course of erection in a position 384 feet, S. W., from Pencarrow head light-house, and at an elevation of 145 feet above the sea.

The fog signal will be explosive, and experiments may be made with it previous to its permanent establishment, of which last further notice will be given.

Approximate position, lat. $41^{\circ} 21' 40''$ S., long. $174^{\circ} 52'$ E.

P. J. FALLE, Comdr., R.I.M.,
Port Officer of Calcutta.

Published for general information.

T. H. CLOWES,
Under-Secretary, Marine Department.

CALCUTTA, the 7th April 1898.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 88.

[Second Publication.]

AFRICA, EAST—RED SEA, WESTERN SHORE.

Massawa Harbour—Alterations in positions of Seraglio Island Lights.

THE British Admiralty has given notice (No. 127 of 1898) that the two red lights previously shown on either side of the base of the Palace central dome, Seraglio island, have been moved, so that they are now leading lights for entering Massawa Harbour:—

1. The front light is shown from a staff at the edge of the quay, at an elevation of 40 feet above the sea, in a position with the French Consulate bearing about S. E. $\frac{1}{4}$ E., distant $2\frac{1}{2}$ cables; and north-east angle of Taoualoud Fort S. W. $\frac{1}{4}$ S.

Approximate position, lat. $15^{\circ} 36' 45''$ N., long. $39^{\circ} 26' 50''$ E.

2. The rear light is shown from the terrace at the north-east angle of the Colonial palace, at an elevation of 72 feet above the sea, and in a position bearing S. 67° W., distant 126 yards, from the front light.

NOTE.—The above lights in line, bearing S. 67° W., lead into Massawa Harbour midway between the buoys at the entrance.

(Variation 4° Westerly in 1898.)

P. J. FALLE, Comdr., R.I.M.,
Port Officer of Calcutta.

Published for general information.

T. H. CLOWES,
Under-Secretary, Marine Department.

CALCUTTA, the 7th April 1898.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 89.

[Second Publication.]

EASTERN ARCHIPELAGO—BORNEO, SOUTH COAST.

Amended depth on shoal southward of Melataor Point.

THE British Admiralty has given notice (No. 133 of 1898) that a depth of 14 feet, at low water springs, has been found on the shoal, previously marked 3 fathoms on the Chart, situated in a position bearing S. 9° E., distant 20 miles, from Melataor (Melatayor) Point.

Approximate position, lat. $3^{\circ} 46'$ S., long. $114^{\circ} 38'$ E.

(Variation 2° Easterly in 1898.)

P. J. FALLE, Comdr., R.I.M.,
Port Officer of Calcutta.

Published for general information.

T. H. CLOWES,
Under-Secretary, Marine Department.

CALCUTTA, the 7th April 1898.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 90.

[Second Publication.]

CHINA SEA—GULF OF SIAM.

Light on Koh Chuen exhibited.

With reference to Notice to Mariners No. 110, dated 28th May 1897, issued by this office, the British Admiralty has given further notice (No. 134 of 1898) that further information has been received that a light is exhibited from the light-house recently erected near the summit of Koh Chuen, eastern side of the head of the Gulf of Siam:—

Koh Chuen light is a second order, *group-flashing white* light with a period of *twenty seconds*, thus:—flash, *one and a half seconds*; eclipse, *three and a half seconds*; flash, *one and a half seconds*; eclipse, *thirteen and a half seconds*; it is elevated 466 feet above the sea, and visible from a distance of 29 miles in clear weather. In addition to the main light, a subsidiary *fixed red* light is shown over Hin Chalan, the rock to the southward.

The light-house is coloured white.

Approximate position, lat. $12^{\circ} 31' 16''$ N., long. $100^{\circ} 56' 10''$ E.

P. J. FALLE, Comdr., R.N.M.,

Port Officer of Calcutta.

Published for general information.

T. H. CLOWES,

Under-Secretary, Marine Department.

CALCUTTA, the 7th April 1898.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 91.

[Second Publication.]

INDIA, SOUTH—CEYLON, SOUTH COAST.

Bell Buoy at the eastern entrance to Galle Harbour shifted.

The Master attendant at Galle has given notice, dated 12th February 1898, that the Bell Buoy marking the Cadda Rocks at the eastern entrance to Galle Harbour, will, on April 15th next, be shifted due south of its present position as charted, a distance of one and half cables, and moored in $12\frac{1}{2}$ fathoms, distant 233 fathoms by measurement from the outer Cadda Rock in a south half east direction. Commanders of steamers approaching the Port are requested to note this and keep a position clear of the buoy until the Pilot shows his flag (white, red and white) horizontal, when it is safe to steer for the Pilot's canoe. If under sail, the canoe is distinguishable by the letter P on it, with the Pilot flag displayed above; should the buoy be out of position, the usual signals from the flag-staff will be hoisted to that effect.

P. J. FALLE, Comdr., R.N.M.,

Port Officer of Calcutta.

Published for general information.

T. H. CLOWES,

Under-Secretary, Marine Department.

CALCUTTA, the 7th April 1898.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 92.

[Third Publication.]

AFRICA, EAST COAST—ZANZIBAR AND PEMBA ISLANDS.

(1) Zanzibar island—Information on certain lights.

The following Notice to Mariners (No. 122 of 1898) issued by the British Admiralty is republished:—

The undermentioned information, relative to certain lights in Zanzibar, has been received from the Port Officer, dated 19th January 1898:—

(a) A lighthouse is in course of erection on the west side of Ohumbe, in approximately lat. $6^{\circ} 16' 45''$ S., long. $39^{\circ} 10' 35''$ E.

(b) Two red lights are shown at the landing-place at Zanzibar about a cable south-eastward of Ras Shangani, and two green lights at the landing-place about a cable north-eastward of Ras Shangani.

Approximate position, Ras Shangani, lat. $6^{\circ} 9' 45''$ S., long. $39^{\circ} 11' 5''$ E.

(c) The word "unreliable" written against Mungopani light, in approximately lat. $5^{\circ} 57' 10''$ S., long. $39^{\circ} 10' 50''$ E., has been expunged from the Charts. This light is elevated 113 feet above high water.

The lighthouse is 73 feet in height.

(d) Mwana Mwana light, in approximately lat. $5^{\circ} 45' 10''$ S., long. $39^{\circ} 13' 10''$ E., is elevated 115 feet above high water.

(e) Ras Nungwe light, in approximately lat. $5^{\circ} 43' 5''$ S., long. $39^{\circ} 13' 5''$ E., has been altered from a revolving to a fixed light, is elevated 105 feet above high water (as before), and visible in clear weather from a distance of 12 miles.

The lighthouse is 45 feet in height.

(2) *Pemba island—Flagstaffs in Chaki Chaki bay.*

Also, that the undermentioned flagstaffs have been erected in Chaki Chaki bay :—

- (a) On the west side of Mesale island, in approximately lat. $5^{\circ} 14' 25''$ S., long. $39^{\circ} 35' 55''$ E.
 (b) On the east side of Ras Tundauwa, in approximately lat. $5^{\circ} 15' 20''$ S., long. $39^{\circ} 41' 20''$ E.

P. J. FALLE, Comdr., R.I.M.,
 Port Officer of Calcutta.

Published for general information.

CALCUTTA, the 1st April 1898.

T. H. CLOWES,
 Under-Secretary, Marine Department.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 84.

[Third Publication.]

PERSIAN GULF—SHATT-AL-ARAB OR BASRA RIVER.

A dangerous shoal.

THE Officer in charge of the Marine Survey of India has given notice that information has been received from Lieutenant Kendall, R. I. M., Commanding R. I. M. S. *Laurence*, that a very dangerous shoal, varying in depth, forms in the Shatt-al-Arab or Basra river about $5\frac{1}{2}$ cables to the southward of Muhammara Palace below the junction of the Karun and Shatt-al-Arab rivers: Approximate position lat. $30^{\circ} 22' 15''$ N., long. $48^{\circ} 12' 35''$ E. It is at its worst when the rivers Dis and Karun are in flood, independent of the rivers Tigris and Euphrates, and being much modified when these rivers are in flood simultaneously; and barely perceptible when the Euphrates and Tigris are in flood first. It is generally expected about the month of February. The least depth of water at L. W. S. found in February 1898 was 4 feet. The deepest water at that time was between the shoal and Dabba island, by keeping close to the island the least water a vessel would pass over was then 9 feet at L. W. S.

Chart affected :—No. 1235 and Persian Gulf Pilot, 1890, page 295.

P. J. FALLE, Comdr., R.I.M.,
 Port Officer of Calcutta.

Published for general information.

CALCUTTA, the 1st April 1898.

T. H. CLOWES,
 Under-Secretary, Marine Department.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 85.

[Third Publication.]

BAY OF BENGAL—ANDAMAN AND NICOBAR ISLANDS.

Position of certain shoals.

THE Officer in charge of the Marine Survey of India has given notice of the existence of the following shoals :—

No. 1.—A shoal east of 2 fathoms at L. W. springs has been obtained by R. I. M. S. *Nancoury* on the Livermore shoal in the following position :—

Lat. $15^{\circ} 12' 15''$ N., long. $97^{\circ} 40' 39''$ E. with—

Phalein Hill (1610) bearing	...	...	N. 45° E.
Summit of Stag island	...	...	N. 89° E.
Summit of Pig island	...	...	S. 23° E.

No. 2.—A shoal of considerable extent has been discovered with 6 fathoms of water on it lying in lat. $15^{\circ} 04\frac{1}{2}'$ N., long. $97^{\circ} 36''$ E. with—

The summit of Pig island bearing	...	...	S. 84° E.
Phalein Hill (1610)	...	...	N. 38° E.
Kennangi S. Peak	...	...	S. 65° E.

No. 3.—A shoal of considerable extent has been discovered with 6 fathoms of water on it lying in lat. $14^{\circ} 53'$ N., long. $97^{\circ} 20\frac{1}{2}'$ E., with Kennangi (2580) S. Peak bearing N. 81° E., distant $30\frac{1}{2}$ miles.

As none of these shoals have been minutely examined, it is possible less water may exist on them.

All bearings are true.

Charts affected.—Nos. 1272, 823, 830, 70, Sailing Directions, Bay of Bengal Pilot second edition 1892, page 362.

P. J. FALLE, Comdr., R.I.M.,
 Port Officer of Calcutta.

Published for general information.

CALCUTTA, the 1st April 1898.

T. H. CLOWES,
 Under-Secretary, Marine Department.



APPENDIX TO

The Calcutta Gazette.

WEDNESDAY, APRIL 27, 1898.

NOTICES TO MARINERS.

GOVERNMENT OF BENGAL,—MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 100.

[First Publication.]

CHINA SEA—HONG-KONG.

Alterations in Storm Signals.

With reference to Notice to Mariners No. 178, dated 18th September 1897, issued by this Office, the British Admiralty has given further notice (No. 148 of 1898) that the Storm Signals given in the above Notice have been discontinued; and the former Storm Signals, as given at pages 78-79, China Sea Directory, Vol. III, 1894, have been re-established.

P. J. FALLE, *Comdr., R.I.M.,*
Port Officer of Calcutta.

Published for general information.

T. H. CLOWES,
Under-Secretary, Marine Department.

CALCUTTA, the 23rd April 1898.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 101.

[First Publication.]

PACIFIC OCEAN—SANDWICH ISLANDS—OAHU.

Honolulu approach—Intended light on Leahi (Diamond head).

The British Admiralty has given notice (No. 150 of 1898) that information has been received that a light will be exhibited from a lighthouse to be erected on Leahi (Diamond Head), eastern approach to Honolulu:—

Leahi (Diamond Head) light will be a third order, dioptric, *fixed* light with sectors; showing *white* over an arc of 184° , and *red* over two arcs of 13° , one on each side of the white sector; it will be elevated 147 feet above the sea and visible in clear weather from a distance of 20 miles.

The lighthouse, an open, frame-work tower, will be situated about 250 yards westward of the signal station.

Approximate position, lat. $21^{\circ} 15' 35''$ N., long. $157^{\circ} 48' 40''$ W.

P. J. FALLE, *Comdr., R.I.M.,*
Port Officer of Calcutta.

Published for general information.

T. H. CLOWES,
Under-Secretary, Marine Department.

CALCUTTA, the 23rd April 1898.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 102.

[First Publication.]

BAY OF BENGAL—BURMA COAST—GULF OF MARTABAN.

Exhibition of Amherst point light further postponed.

With reference to Notice to Mariners, No. 69, dated 12th March last, issued by this Office, a telegraphic communication has been received from the Port Officer, Rangoon, stating that the exhibition of Amherst point light has been further postponed to 6th June next.

P. J. FALLE, Comdr., R.N.M.,
Port Officer of Calcutta.

Published for general information.

T. H. CLOWES,
Under-Secretary, Marine Department.

CALCUTTA, the 28th April 1898.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 92.

[Second Publication.]

AUSTRALIA—East coast.

(1) *Cleveland Bay—Light near quarantine station jetty.*

The British Admiralty has given notice (No. 136 of 1898) that a fixed white light of small power, visible between the bearings of N. 73° E. (over No. 2, black buoy) and N. 34° E. (over black, cage buoy), is shown from a platform, situated near the quarantine station jetty, on the west side of Magnetic island.

Approximate position, lat. 19° 8' 15" S., long. 148° 47' 5" E.

(2) *Prince of Wales Channel—Beacon on Ipili Reef blown down.*

Also, that the beacon on Ipili reef, northward of the east end of Goode island, has been blown down. It would be re-erected as soon as possible, of which further Notice will be given.

Approximate position, lat. 10° 32½' 0" S., long. 142° 10' 15" E.

(Variation 7° Easterly in 1898.)

P. J. FALLE, Comdr., R.N.M.,
Port Officer of Calcutta.

Published for general information.

T. H. CLOWES,
Under-Secretary, Marine Department.

CALCUTTA, the 16th April 1898.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 93.

[Second Publication.]

JAPAN—KIU-SIU.

Karatzu no ura—Sunken rocks.

The British Admiralty has given notice (No. 137 of 1898) of the existence of the undermentioned sunken rocks, in the north-eastern part of Karatzu no ura, northern coast of Kiu-siu:—

1. A rock, named Tsutsu se, with a depth of 3 fathoms on it, situated with the west extreme of Keya saki bearing N. by W. ½ W., distant 2½ miles; and Ko Fusi yama (1267) N. E. by E. ½ E.

Approximate position, lat. 33° 32' 50" N., long. 130° 6' 0" E.

2. A rock, with a depth of 5 fathoms on it, situated in a position bearing S. E. ¼ S. distant 11½ cables from rock (1); or with Keya saki bearing N. N. W. ¼ W., distant 3½ miles.

Rocks above and below water extend about 3 cables southward of the point projecting from the middle of the north shore of Funago shi.

(Variation 4° Westerly in 1898.)

P. J. FALLE, Comdr., R.N.M.,
Port Officer of Calcutta.

Published for general information.

T. H. CLOWES,
Under-Secretary, Marine Department.

CALCUTTA, the 16th April 1898.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.
NOTICE TO MARINERS—No. 84.

[Second Publication.]

PERSIAN GULF, WESTERN SHORE—BAHREIN HARBOUR.

Amended depth on shoal to the north-eastward.

THE British Admiralty has given notice (No. 138 of 1898) that information has been received from the Commander of the R.I.M. steam-vessel *Lawrence*, dated 9th February 1898, that he obtained soundings of $4\frac{1}{2}$ and $4\frac{3}{4}$ fathoms, on the shoal hitherto marked with 5-fathom depths on the Chart, situated in a position bearing N.N.E. $\frac{1}{2}$ E., distant 22 miles, from the northern point of Muharrak island eastern side of Bahrein harbour.

Approximate position, lat. $26^{\circ} 37' N.$, long. $50^{\circ} 50' E.$

The words "Depths of $4\frac{1}{2}$ and $4\frac{3}{4}$ fathoms reported on this shoal" have been written on the Chart against the above shoal.

(Variation nil in 1898.)

P. J. FALLE, Comdr., R.I.M.,
Port Officer of Calcutta.

Published for general information.

CALCUTTA, the 16th April 1898.

T. H. CLOWES,
Under-Secretary, Marine Department.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.
NOTICE TO MARINERS—No. 95.

[Second Publication.]

EASTERN ARCHIPELAGO—JAVA, NORTH COAST.

Bataia approach—Sunken rock south-eastward of Rotterdam island.

THE British Admiralty has given notice (No. 139 of 1898) of the existence of a rock, about three-quarters of a cable in extent, with a depth of 2 fathoms on it, and 9 fathoms near, situated with the south extreme of Rotterdam island bearing N. $71^{\circ} W.$, distant $3\frac{1}{2}$ cables.

Approximate position, lat. $6^{\circ} 0' 10'' S.$, long. $106^{\circ} 44' 50'' E.$

(Variation 1° Easterly in 1898.)

P. J. FALLE, Comdr., R.I.M.,
Port Officer of Calcutta.

Published for general information.

CALCUTTA, the 16th April 1898.

T. H. CLOWES,
Under-Secretary, Marine Department.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.
NOTICE TO MARINERS—No. 96.

[Second Publication.]

AFRICA, EAST—RED SEA, WESTERN SHORE.

Shab Shakhs buoy missing.

THE British Admiralty has given notice (No. 140 of 1898) that information has been received from Lieutenant and Commander H. J. Gedge, H.M. surveying vessel *Stork*, that, on passing the spit extending off Shab Shakhs, on 31st January 1898, the buoy (conical, red) previously marking the extremity of the spit was not in position, nor could it be seen either northward or southward of the locality.

Approximate position, extremity of spit, lat. $14^{\circ} 41\frac{1}{2}' N.$, long. $41^{\circ} 6' E.$

P. J. FALLE, Comdr., R.I.M.,
Port Officer of Calcutta.

Published for general information.

CALCUTTA, the 16th April 1898.

T. H. CLOWES,
Under-Secretary, Marine Department.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.
NOTICE TO MARINERS—No. 97.

[Second Publication.]

AFRICA, EAST COAST—DELAGOA BAY.

Gibbon point beacon fallen down.

THE British Admiralty has given notice (No. 141 of 1898) that Gibbon point beacon has fallen down, and a new beacon would be erected there.

Approximate position, lat. $25^{\circ} 58' 5'' S.$, long. $32^{\circ} 54' 10'' E.$

P. J. FALLE, Comdr., R.I.M.,
Port Officer of Calcutta.

Published for general information.

CALCUTTA, the 16th April 1898.

T. H. CLOWES,
Under-Secretary, Marine Department.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 98.

(Second Publication.)

SOUTH PACIFIC OCEAN.

Particulars of certain banks.

The British Admiralty has given notice (No. 145 of 1898) that the undermentioned particulars of certain banks in the South Pacific Ocean are derived from recent examinations by Captain A. Mostyn Field, H.M. surveying vessel *Penguin* :—

- (1) **LALLA ROOKH BANK**, originally discovered and sounded on by Sir Edward Home, H.M.S. *North Star*, is $3\frac{1}{2}$ miles long north-east and south-west, with an extreme breadth of $1\frac{1}{2}$ miles.

The north-east end of the bank is in approximately lat. $12^{\circ} 54' 30''$ S., long. $175^{\circ} 38'$ W., with general depths of 10 to 14 fathoms on it, over a sand and coral bottom.

The central portion of the bank is slightly deeper than the rim, but not very markedly so. From the edge the soundings drop down steeply to depths between 200 and 300 fathoms.

Whilst at anchor on this bank (October 1897) the current was found to set between W.N.W. and S.S.E., from a half to one and a quarter knots.

The southerly set was most pronounced between 3h. and 8h. after high water at Wallis island.

- (2) **HOME KNOLL**, named after Captain Sir Edward Home, was found by H.M.S. *Penguin* while searching for Lalla Rookh bank.

It is a small coral knoll, extending east and west about one mile between the 100-fathom limits, by little more than half a mile in breadth, with a least depth of 10 fathoms on it, and general depths of 12 to 16 fathoms, over a sand and coral bottom.

Its centre is in approximately lat. $12^{\circ} 54\frac{1}{2}'$ S., long. $175^{\circ} 36\frac{1}{2}'$ W., and it is situated one mile eastward from the north-east end of Lalla Rookh bank with soundings of from 200 to 300 fathoms between.

The 1,000-fathom line encircles the two banks, Lalla Rookh and Home knoll, at distances varying from $1\frac{1}{2}$ to 3 miles.

- (3) **PASCO BANK**, reported by several vessels as situated between Savaii and Wallis islands, and marked "7 P. D." on the Admiralty Charts, is 5 miles in width at its eastern end, from whence it extends nearly 20 miles in a westerly direction, narrowing to a width of 3 miles in its centre, westward of which it contracts to a breadth of three-quarters of a mile, thence broadening out and forming a narrow ridge.

The general depths in the centre are from 22 to 27 fathoms, sand and coral, with a shallow rim of growing coral running round its outer margin, having depths of 8 to 10 fathoms on it. The shallowest soundings, $7\frac{1}{2}$ fathoms, were found on the southern edge of the bank, where it is most contracted in width. On all sides it drops down steeply into depths of from 200 to 400 fathoms.

The western extreme of this bank is situated in approximately lat. $13^{\circ} 4'$ S., long. $174^{\circ} 37\frac{1}{2}'$ W.

Whilst at anchor on this bank (October 1897) the current was found to set from N.W. to S.W. from a half to one and a quarter knots.

- (4) **FIELD BANK**, probably identical with a bank reported in 1874 by Captain Turpie of the Missionary barque *John Williams*, was examined by H.M.S. *Penguin* in October 1897, and as there is already a Turpie bank in this vicinity, the name of Field has been given to it.

Its eastern extremity is situated in approximately lat. $12^{\circ} 16\frac{1}{2}'$ S., long. $174^{\circ} 43\frac{1}{2}'$ W., and the bank thence extends W. by S. $\frac{1}{4}$ S. for $6\frac{1}{2}$ miles with a breadth of $2\frac{1}{2}$ miles towards the centre, and contracted at the eastern end to a narrow ridge, which is 2 miles long and barely half a mile in width.

The least water found was 13 fathoms, situated on its northern edge; the general depths over the shallow rim encircling the bank range from 14 to 16 fathoms, and the depths in the centre from 18 to 21 fathoms, over a sand and coral bottom.

The edge of the bank drops steeply on all sides into depths of from 200 to 300 fathoms.

It lies S.W. by S., distant 14 miles, from Tavuni bank, with soundings of upwards of 1,200 fathoms between.

The shoal to which the name Turpie was attached having been previously shown 50 miles northward of this position on the Admiralty Chart, a search was made by the *Penguin* over a considerable area in that locality, but no sign of shoal water was found there. It has therefore been expunged.

- (5) **TAVIUNI BANK**, originally reported by the schooner of that name, is a small oval-shaped bank of sand and coral, 2 miles long. E. $\frac{1}{2}$ N. and W. $\frac{1}{2}$ S., within the 100-fathom limits, and upwards of a mile broad.

Its centre is situated in lat. $12^{\circ} 6' S.$, long. $174^{\circ} 34' W.$ The least water found by H.M.S. *Penguin* was 9 fathoms, the depth over the greater portion of the bank ranging from 11 to 14 fathoms.

Outside the 20-fathom line it drops steeply down to depths of over 100 fathoms, the 1,000-fathom line maintaining a distance of 2 miles from it all round.

Whilst at anchor on this bank (September 1897) the current was setting N.W., half a knot.

- (6) **ROBBIE BANK**, originally reported by the Master of the schooner *Tasiani* in 1888, is nearly circular in shape, 8 miles in diameter, and situated with its centre in approximately lat. $11^{\circ} 3' S.$, long. $176^{\circ} 53' W.$

It is composed of sand and coral, and is of the usual atoll-like formation, which is such a common feature in all these banks, having general depths of 26 to 29 fathoms over its central portion, with a shallower rim, running round the edge, of growing coral, about one mile in width within the 20 fathom line, with depths of 10 to 15 fathoms over it.

The shallowest part is on the north-western edge where this rim rises to depths of 7 and 8 fathoms for a distance of about 2 miles along its periphery.

The edge of this bank drops down steeply on all sides, within a very short distance, to depths of from 200 to 300 fathoms.

Whilst at anchor on this bank (November 1897) the current varied considerably. East and S. E. currents, from a half to three-quarters of a knot, occasionally setting to windward against a fresh E.N.E. wind.

- (7) **ADOLPH KNOLL**, originally reported by the German schooner *Adolph*, is a small coral bank, one mile in extent, rising steeply from depths of 300 to 400 fathoms, with a least depth of 16 fathoms on it on its western side.

Its centre is situated in approximately lat. $11^{\circ} 54' S.$, long. $178^{\circ} 24' W.$ and it bears S.E., distant 3 miles, from Tuscarora bank, with soundings of from 300 to 400 fathoms between.

- (8) **TUSCARORA BANK**, discovered by H.M.S. *Penguin*, is situated with its centre in approximately lat. $11^{\circ} 48' S.$, long. $178^{\circ} 14' W.$

It is 10 miles long, east and west, and about 6 miles broad, having depths of 26 to 29 fathoms, sand and coral, over its central portions, with a shallower rim of growing coral, over which the general depths are 20 to 22 fathoms.

On the south-western edge there is a shallower patch of 14 fathoms, and on the northern edge a patch of 16 to 18 fathoms. The bank drops down steeply on all sides into depths of more than 200 fathoms.

Whilst at anchor on this bank (November 1897) the current varied in direction between W.N.W. and South, with a rate of from a quarter to one knot. The southerly current commenced with great regularity each day 3 hours after the moon's passage and continued for 6 hours, showing that these variations are due to tide.

Both the Adolph knoll and the Tuscarora bank appear to stand on an extensive deep bank, the 1,000-fathom limit of which it was not practicable to determine.

NOTE.—Captain Field remarks that in no single instance was the presence of any of these banks detected from the masthead, although the conditions for doing so were usually favourable, and in addition to the ordinary "look out," a Fijian, familiar with the appearance of coral water, was always stationed at the masthead.

Charts Nos. 780, 1829 and 1830 have been cancelled.

P. J. FALLE, *Comdr., R.N.M.*
Port Officer of Calcutta.

Published for general information.

T. H. CLOWES,
Under-Secretary, Marine Department.

Calcutta, the 16th April 1898.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 99.

[Second Publication.]

PACIFIC OCEAN—PHILIPPINES—LUZON ISLAND.

Port Kavite—Light on Sangley point.

THE British Admiralty has given notice (No. 147 of 1898) that a light is exhibited provisionally from the old, iron framework lighthouse on Sangley point:—

Sangley point light is a cata-dioptric, *fixed red* light, elevated 84 feet above high water, 28 feet above the ground, and visible from N 89° E., through east and south, to N. 31° W. (an arc of 240), a distance of 8 miles in clear weather.

Approximate position on plan No. 975, lat. 14° 28' 50" N., long. 120° 54' 40" E.

NOTE.—Sangley point is extending to the eastward, and the above light is eventually to be shifted nearer to the extremity of the point. Further Notices will be given when the change is carried out.

(Variation 1° Easterly in 1898.)

P. J. FALLA, Comdr., R.N.,
Port Officer of Calcutta.

Published for general information.

T. H. CLOWES,
Under-Secretary, Marine Department.

CALCUTTA, the 10th April 1898.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 86.

[Third Publication.]

NEW ZEALAND—NORTH ISLAND, KAIPARA HARBOUR.

Alterations in leading beacons.

THE British Admiralty has given notice (No. 125 of 1898) that the leading beacons on North head, Kaipara Harbour, were then being taken down; the two upper (north-eastern) beacons would be re-erected about one mile westward of their previous positions, and the lower (previous south-western) beacon would be discontinued.

Approximate new position, rear beacon, lat. 36° 23' 15" S., long. 174° 6' 55" E.

NOTE.—Further notice will be given when the beacons have been re-erected; in the meantime Kaipara Harbour should be entered with great caution, and particular attention should be paid to any signals made from the station near the light-house.

P. J. FALLA, Comdr., R.N.,
Port Officer of Calcutta.

Published for general information.

T. H. CLOWES,
Under-Secretary, Marine Department.

CALCUTTA, the 7th April 1898.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 87.

[Third Publication.]

NEW ZEALAND—COOK STRAIT.

Port Nicholson—Intended fog signal on Pencarrow Head.

THE British Admiralty has given notice (No. 126 of 1898) that a fog signal apparatus is in course of erection in a position 384 feet, S. W., from Pencarrow head light-house, and at an elevation of 145 feet above the sea.

The fog signal will be explosive, and experiments may be made with it previous to its permanent establishment, of which last further notice will be given.

Approximate position, lat. 41° 21' 40" S., long. 174° 52' E.

P. J. FALLA, Comdr., R.N.,
Port Officer of Calcutta.

Published for general information.

T. H. CLOWES,
Under-Secretary, Marine Department.

CALCUTTA, the 7th April 1898.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 88.

[Third Publication.]

AFRICA, EAST—RED SEA, WESTERN SHORE.

Massawa Harbour—Alterations in positions of Seraglio Island Lights.

THE British Admiralty has given notice (No. 127 of 1898) that the two red lights previously shown on either side of the base of the Palace central dome, Seraglio island, have been moved, so that they are now leading lights for entering Massawa Harbour:—

1. The front light is shown from a staff at the edge of the quay, at an elevation of 40 feet above the sea, in a position with the French Consulate bearing about S. E. $\frac{1}{2}$ E., distant $2\frac{1}{2}$ cables; and north-east angle of, Tawaloud Fort S. W. $\frac{1}{2}$ S.

Approximate position, lat. $15^{\circ} 36' 45''$ N., long. $39^{\circ} 26' 50''$ E.

2. The rear light is shown from the terrace at the north-east angle of the Colonial palace, at an elevation of 72 feet above the sea, and in a position bearing S. 67° W., distant 126 yards, from the front light.

NOTE.—The above lights in line, bearing S. 67° W., lead into Massawa Harbour midway between the buoys at the entrance.

(Variation 4° Westerly in 1898.)

P. J. FALLE, Comdr., R.I.M.,
Port Officer of Calcutta.

Published for general information.

CALCUTTA, the 7th April 1898.

T. H. CLOWES,
Under-Secretary, Marine Department.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 89.

[Third Publication.]

EASTERN ARCHIPELAGO—BORNEO, SOUTH COAST.

Amended depth on shoal southward of Melataor Point.

THE British Admiralty has given notice (No. 133 of 1898) that a depth of 14 feet, at low water springs, has been found on the shoal, previously marked 3 fathoms on the Chart, situated in a position bearing S. 9° E., distant 20 miles, from Melataor (Melatayor) Point.

Approximate position, lat. $3^{\circ} 46'$ S., long. $114^{\circ} 38'$ E.

(Variation 2° Easterly in 1898.)

P. J. FALLE, Comdr., R.I.M.,
Port Officer of Calcutta.

Published for general information.

CALCUTTA, the 7th April 1898.

T. H. CLOWES,
Under-Secretary, Marine Department.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 90.

[Third Publication.]

CHINA SEA—GULF OF SIAM.

Light on Koh Chuen exhibited.

WITH reference to Notice to Mariners No. 110, dated 28th May 1897, issued by this office, the British Admiralty has given further notice (No. 134 of 1898) that further information has been received that a light is exhibited from the light-house recently erected near the summit of Koh Chuen, eastern side of the head of the Gulf of Siam:—

Koh Chuen light is a second order, group-flashing white light with a period of twenty seconds, thus:—flash, one and a half seconds; eclipse, three and a half seconds; flash, one and a half seconds; eclipse, thirteen and a half seconds; it is elevated 466 feet above the sea, and visible from a distance of 29 miles in clear weather. In addition to the main light, a subsidiary fixed red light is shown over Hin Chalan, the rock to the southward.

The light-house is coloured white.

Approximate position, lat. $12^{\circ} 31' 10''$ N., long. $100^{\circ} 58' 10''$ E.

P. J. FALLE, Comdr., R.I.M.,
Port Officer of Calcutta.

Published for general information.

CALCUTTA, the 7th April 1898.

T. H. CLOWES,
Under-Secretary, Marine Department.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 91.

[Third Publication.]

INDIA, SOUTH—CEYLON, SOUTH COAST.

Bell Buoy at the eastern entrance to Galle Harbour shifted.

THE Master attendant at Galle has given notice, dated 12th February 1898, that the Bell Buoy marking the Cadda Rocks at the eastern entrance to Galle Harbour, will, on April 15th next, be shifted due south of its present position as charted, a distance of one and half cables, and moored in 12½ fathoms, distant 233 fathoms by measurement from the outer Cadda Rock in a south half east direction. Commanders of steamers approaching the Port are requested to note this and keep a position clear of the buoy until the Pilot shows his flag (white, red and white) horizontal, when it is safe to steer for the Pilot's canoe. If under sail, the canoe is distinguishable by the letter P on it, with the Pilot flag displayed above; should the buoy be out of position, the usual signals from the flag-staff will be hoisted to that effect.

P. J. FALLER, Comdr., R.N.M.,
Port Officer of Calcutta.

Published for general information.

CALCUTTA, the 7th April 1898.

T. H. CLOWES,
Under-Secretary, Marine Department.



APPENDIX TO

The Calcutta Gazette.

WEDNESDAY, MAY 4, 1898.

NOTICES TO MARINERS.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 103.

[First Publication.]

BAY OF BENGAL—CHITTAGONG COAST.

Chittagong river.—Depth of water found in the channels.

The Port Officer, Chittagong, has given notice that the following depth of water was found in the river channels by soundings taken on the 23rd April and reduced to zero:—

	Feet.	Inches.
<i>Track No. I—Outer bar—</i>		
Disc in centre of diamond and tripod, cask, and ball ...	10	6
<i>Track No. II—Inner bar—</i>		
Disc on diamond ...	10	6
Disc on tripod, cask and ball ...	10	0
<i>Track No. III—</i>		
Tripod, cask and ball ...	18	0
<i>Track No. IV—</i>		
Triangle on tripod, cask and ball ...	20	0
<i>Track No. V—</i>		
Old marks ...	17	0
Centre ...	17	0
Tripod on diamond ...	15	0

P. J. FALLS, Comdr., R.I.N.,
Port Officer of Calcutta.

Published for general information.

Calcutta, the 30th April 1898.

T. H. CLOWES,
Under-Secretary, Marine Department.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 104.

[First Publication.]

AUSTRALIA—PIONEER RIVER.

Breach at East Point Spit beacons and lighted.

The Port Master, Brisbane, has given notice (No. 8 of 1898) that the breach made by the Pioneer river through East Point Spit is beacons and lighted for use, the old entrance being no longer marked.

Directions.—The Fairway buoy is placed in 3 fathoms off the edge of shoal water, and lies with Slade Islet bearing north and Flat Top bearing S.E., distant 5 cables. It may be passed on either side bringing two white beacons in line bearing W. $\frac{1}{2}$ S. and pass a red

buoy to starboard, and between red and black buoys marking the gap in the stone wall through which the breach occurred; then haul up sharp and steer for Mt. Bassett, bringing two white leading beacons in line ahead bearing N.W. by N. $\frac{1}{2}$ N. until two white beacons on East Point come in line astern leading on a N.W. by W. $\frac{1}{2}$ W. course, then proceed as before.

These beacons are lighted at night.

Chart affected, No. 347, Australia Directory, vol. 2.

P. J. FALLER, Comdr., R.I.M.,
Port Officer of Calcutta.

Published for general information.

CALCUTTA, the 30th April 1898.

T. H. CLOWES,
Under-Secretary, Marine Department.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 108.

[First Publication.]

NEW ZEALAND, SOUTH ISLAND—DAGGS SOUND.

Sunken rock off Schooner point.

THE British Admiralty has given notice (No. 159 of 1898) of the existence of a sunken rock, on which the Government steam-vessel *Tutanakai* touched, with a depth of 12 feet on it at low-water springs, situated one cable offshore, in a position with north-east extreme of Schooner point bearing E. by S., distant a quarter of a mile; and western extreme Seventy fathoms point N. $\frac{1}{2}$ E.

Approximate position, lat. $45^{\circ} 25' 10''$ S., long. $166^{\circ} 52' 50''$ E.

(Variation 16° Easterly in 1898.)

P. J. FALLER, Comdr., R.I.M.,
Port Officer of Calcutta.

Published for general information.

CALCUTTA, the 30th April 1898.

T. H. CLOWES,
Under-Secretary, Marine Department.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 109.

[First Publication.]

BAY OF BENGAL—SANDHEADS AND RIVER HOOGHLY.

Anchorage lights in river Hooghly.

THE British Admiralty has given notice (No. 178 of 1898, paragraph 3) that, on 1st April 1898, the undermentioned anchorage lights would be shown in the river Hooghly:—

- (a) Kalpi anchorage (Jigerkolli) light is a *fixed white* light, elevated about 12 feet above the water, and visible from about North, through west, to S.S.W., at distance of 5 miles in clear weather.

It is situated near the surveying beacon about half a mile eastward of Jigerkolli obelisk.

Approximate position, lat. $22^{\circ} 6' 0''$ N., long. $88^{\circ} 11' 15''$ E.

- (b) Kantabaria point light is a *fixed red* light, elevated 16 feet above the water visible 5 miles in clear weather, and shown either from Kantabaria obelisk, or from a mast close to it.

Approximate position, lat. $22^{\circ} 8' 0''$ N., long. $88^{\circ} 12' 40''$ E.

- (c) Diamond harbour lights are *two fixed red* lights, visible 2 to 3 miles in clear weather, one shown from the yard arm of the Telegraph office, the other from abreast the Custom-house trees, at an elevation of about 14 feet above the water.

Approximate position, Telegraph office, lat. $22^{\circ} 11' 30''$ N., long. $88^{\circ} 11' 5''$ E.

- (d) Fisherman's point light is a *fixed red* light, elevated 14 feet above the water, visible 2 to 3 miles in clear weather, and shown from the western bank of the river abreast Fisherman's anchorage.

Approximate position, lat. $22^{\circ} 19' 40''$ N., long. $88^{\circ} 5' 30''$ E.

(Variation 5° Easterly in 1898.)

P. J. FALLER, Comdr., R.I.M.,
Port Officer of Calcutta.

Published for general information.

CALCUTTA, the 30th April 1898.

T. H. CLOWES,
Under-Secretary, Marine Department.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 107.

[First Publication.]

CHINA SEA—PESCADORES ISLANDS.

(1) *Sunken rock north-eastward of Ragged island.*

THE British Admiralty has given notice (No. 179 of 1898) that a sunken rock, on which the sea breaks, is reported to exist in a position with Ragged island bearing S.W. $\frac{1}{2}$ S., distant $\frac{1}{4}$ cables; and south extreme of Organ island W. $\frac{1}{4}$ N.

Approximate position, lat. $23^{\circ} 36' 30''$ N., long. $119^{\circ} 41' 45''$ E.

The symbol for a rock with less than 6 feet water on it, with the word "breaks" written against it, has been placed on the Admiralty Chart in the above position.

Also, that the sunken rock, shown on the chart nearly a mile, north-eastward, from Organ island, extends about a quarter of a mile north and south.

(2) *Rocks northward of North rocks.*

Also, that the undermentioned rocks exist northward of North rocks:—

(a) Niyake sho, a sunken rock, on which the steam-vessel *Nara maru* was wrecked in 1897, is situated about a mile northward of North rocks, in approximately lat. $23^{\circ} 48' 0''$ N., long. $119^{\circ} 34' 50''$ E.

(b) Higashiyake sho, a rock above water, in approximately lat. $23^{\circ} 48' 20''$ N., long. $119^{\circ} 34' 55''$ E.

(c) Oyake sho, a rock above water, in approximately lat. $23^{\circ} 48' 10''$ N., long. $119^{\circ} 34' 20''$ E.

NOTE.—The two masts of the *Nara maru* are reported to be still standing, and the upper part of the wreck shows at low water.

(Variation nil in 1898.)

P. J. FALLE, Comdr., R.N.,
Port Officer of Calcutta.

Published for general information.

CALCUTTA, the 30th April 1898.

T. H. CLOWES,
Under-Secretary, Marine Department.

GOVERNMENT OF BENGAL MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 108.

[First Publication.]

BAY OF BENGAL—AND ARABIAN SEA.

Alterations in storm signals at ports of India.

THE British Admiralty has given notice (No. 182 of 1898) that the undermentioned system of storm signals is being adopted for all the ports of India, with the exception of those in the river Hooghly, and with that exception the previous systems have been discontinued:—

DAY SIGNALS.

1. CAUTIONARY.—BAY OF BENGAL.—The square flag *W* of the International Code, hoisted at the storm signal staff, indicates the existence of disturbed squally weather in the Bay of Bengal, which may be the first stage in the formation of a cyclonic storm, and which, if it develops, is likely to affect that part of the coast on which the port, where the signal is shown, is situated.

ARABIAN SEA.—The square flag *W* of the International Code, hoisted at the storm signal staff, indicates the existence of disturbed weather off the west coast of India near the port or ports where the signal is shown; or the advance of a cyclonic storm across Hindustan from the Bay of Bengal, which may shortly give squally or stormy weather in the Arabian sea.

In either of the above cases if the disturbed conditions pass away without producing stormy weather, the cautionary signal is hauled down; but if the disturbed weather will probably develop into a cyclone, signals indicating the probable position, character, and tract of the approaching storm are shown as follows.

2. WARNING SIGNAL.—A *ball* indicates that a cyclonic storm has formed, which will probably reach the port where the signal is shown, but is still at a considerable distance from it.

The same signal will also be shown at more important ports on the west coast of India, to indicate that a storm has formed in the Arabian sea at some distance from the coast and will shortly cross one or other of the track of vessels leaving those ports, but will not reach such ports. The Port officer will receive details to communicate to vessels leaving the port.

3. DANGER SIGNALS.—(a) A *cone*, apex downwards, indicates that a cyclonic storm, probably slight to moderate, is affecting the port, and that its centre will probably cross the coast considerably to the southward.

- (b) A *cone*, apex upwards, indicates that the centre of such a storm, as above (3 a), will probably cross the coast considerably to the northward.
- (c) A *drum* indicates that the centre of such a storm as above (3 a) will probably cross the coast over or near the port.

4. GREAT DANGER SIGNALS.—(a) A *cone*, apex downwards, over a *ball*, indicates that a cyclonic storm of great intensity is affecting the port and that its centre will probably cross the coast considerably to the southward.

- (b) A *cone*, apex upwards, over a *ball*, indicates that the centre of such a storm as above (4 a) will probably cross the coast considerably to the northward.
- (c) A *drum*, over a *ball*, indicates that the centre of such a storm as above (4 a) will probably cross the coast over or near the port.

NIGHT SIGNALS.

1. No cautionary signals are shown at night.
2. A *red* light indicates similarly to warning signal (2) above.
3. (a) A *red* light placed vertically over a *white* light indicates similarly to danger signal 3 a above.
- (b) A *white* light placed vertically over a *red* light indicates similarly to danger signal 3 b above.
- (c) Two *red* lights, placed vertically, indicate similarly to danger signal 3 c above.
4. (a) Two *red* lights placed vertically over a *white* light indicate similarly to great danger signal 4 a above.
- (b) A *white* light over two *red* lights placed vertically, indicates similarly to great danger signal 4 b above.
- (c) Three *red* lights, placed vertically indicate similarly to great danger signal 4 c above.

P. J. FALLE, Comdr., R.N.M.,
Port Officer of Calcutta.

Published for general information.

CALCUTTA, the 30th April 1898.

T. H. CLOWES,
Under-Secretary, Marine Department.

GOVERNMENT OF BENGAL,—MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 100.

[Second Publication.]

CHINA SEA—HONG-KONG.

Alterations in Storm Signals.

With reference to Notice to Mariners No. 178, dated 18th September 1897, issued by this Office, the British Admiralty has given further notice (No. 148 of 1898) that the Storm Signals given in the above Notice have been discontinued; and the former Storm Signals, as given at pages 78-79, China Sea Directory, Vol. III, 1894, have been re-established.

P. J. FALLE, Comdr., R.N.M.,
Port Officer of Calcutta.

Published for general information.

CALCUTTA, the 23rd April 1898.

T. H. CLOWES,
Under-Secretary, Marine Department.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 101.

[Second Publication.]

PACIFIC OCEAN—SANDWICH ISLANDS—OAHU.

Honolulu approach—Intended light on Leahi (Diamond head).

THE British Admiralty has given notice (No. 150 of 1898) that information has been received that a light will be exhibited from a lighthouse to be erected on Leahi (Diamond Head), eastern approach to Honolulu:—

Leahi (Diamond Head) light will be a third order, dioptric, *fixed* light with sector; showing *white* over an arc of 184° , and *red* over two arcs of 13° , one on each side of the white sector; it will be elevated 147 feet above the sea and visible in clear weather from a distance of 20 miles.

The lighthouse, an open, frame-work tower, will be situated about 250 yards westward of the signal station.

Approximate position, lat. $21^{\circ} 15' 35''$ N., long. $157^{\circ} 48' 40''$ W.

P. J. FALLE, Comdr., R.N.M.,
Port Officer of Calcutta.

Published for general information.

CALCUTTA, the 23rd April 1898.

T. H. CLOWES,
Under-Secretary, Marine Department.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 102.

[Second Publication.]

BAY OF BENGAL—BURMA COAST—GULF OF MARTABAN.

Exhibition of Amherst point light further postponed.

With reference to Notice to Mariners, No. 69, dated 12th March last, issued by this Office, a telegraphic communication has been received from the Port Officer, Rangoon, stating that the exhibition of Amherst point light has been further postponed to 6th June next.

P. J. FALLE, Comdr., R.I.M.,
Port Officer of Calcutta.

Published for general information.

T. H. CLOWES,
Under-Secretary, Marine Department.

CALCUTTA, the 23rd April 1898.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 92.

[Third Publication.]

AUSTRALIA—EAST COAST.

(1) *Cleveland Bay—Light near quarantine station jetty.*

The British Admiralty has given notice (No. 136 of 1898) that a fixed white light of small power, visible between the bearings of N. 73° E. (over No. 2, black buoy) and N. 34° E. (over black, cage buoy), is shown from a platform, situated near the quarantine station jetty on the west side of Magnetic island.

Approximate position, lat. 19° 8' 15" S., long. 146° 47' 5" E.

(2) *Prince of Wales Channel—Beacon on Ipili Reef blown down.*

Also, that the beacon on Ipili reef, northward of the east end of Goode island, has been blown down. It would be re-erected as soon as possible, of which further Notice will be given.

Approximate position, lat. 10° 32½' 0" S., long. 142° 10' 15" E.

(Variation 7° Easterly in 1898.)

P. J. FALLE, Comdr., R.I.M.,
Port Officer of Calcutta.

Published for general information.

T. H. CLOWES,
Under-Secretary, Marine Department.

CALCUTTA, the 16th April 1898.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 93.

[Third Publication.]

JAPAN—KIUSIU.

Karatsu no ura—Sunken rocks.

The British Admiralty has given notice (No. 137 of 1898) of the existence of the undermentioned sunken rocks, in the north-eastern part of Karatsu no ura, northern coast of Kiusiu:—

1. A rock, named Tautsu ee, with a depth of 3 fathoms on it, situated with the west extreme of Kaya saki bearing N. by W. ½ W., distant 2½ miles; and Ko. Fusi yama (1267) N. E. by E. ½ E.

Approximate position, lat. 33° 32' 50" N., long. 130° 6' 0" E.

2. A rock, with a depth of 5 fathoms on it, situated in a position bearing S. E. ½ S. distant 11½ cables from rock (1); or with Kaya saki bearing N. N. W. ½ W., distant 3½ miles.

Rocks above and below water extend about 3 cables southward of the point projecting from the middle of the north shore of Funago shi.

(Variation 4° Westerly in 1898.)

P. J. FALLE, Comdr., R.I.M.,
Port Officer of Calcutta.

Published for general information.

T. H. CLOWES,
Under-Secretary, Marine Department.

CALCUTTA, the 16th April 1898.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 94.

[Third Publication.]

PERSIAN GULF, WESTERN SHORE—BAHREIN HARBOUR.

Amended depth on shoal to the north-eastward.

THE British Admiralty has given notice (No. 138 of 1898) that information has been received from the Commander of the R.I.M. steam-vessel *Laurence*, dated 9th February 1898, that he obtained soundings of $4\frac{1}{2}$ and $4\frac{3}{4}$ fathoms, on the shoal hitherto marked with 5-fathom depths on the Chart, situated in a position bearing N.N.E. $\frac{1}{2}$ E., distant 22 miles, from the northern point of Muharrak island eastern side of Bahrein harbour.

Approximate position, lat. $26^{\circ} 37' N.$, long. $50^{\circ} 50' E.$

The words "Depths of $4\frac{1}{2}$ and $4\frac{3}{4}$ fathoms reported on this shoal" have been written on the Chart against the above shoal.

(Variation nil in 1898.)

P. J. FALLER, Comdr., R.I.M.,
Port Officer of Calcutta.

Published for general information.

T. H. CLOWES,

Under-Secretary, Marine Department.

CALCUTTA, the 16th April 1898.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 95.

[Third Publication.]

EASTERN ARCHIPELAGO—JAVA, NORTH COAST.

Batavia approach—Sunken rock south-eastward of Rotterdam island.

THE British Admiralty has given notice (No. 139 of 1898) of the existence of a rock, about three-quarters of a cable in extent, with a depth of 2 fathoms on it, and 9 fathoms near, situated with the south extreme of Rotterdam island bearing N. $71^{\circ} W.$, distant $3\frac{1}{2}$ cables.

Approximate position, lat. $6^{\circ} 0' 10'' S.$, long. $106^{\circ} 44' 50'' E.$

(Variation 1° Easterly in 1898.)

P. J. FALLER, Comdr., R.I.M.,
Port Officer of Calcutta.

Published for general information.

T. H. CLOWES,

Under-Secretary, Marine Department.

CALCUTTA, the 16th April 1898.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 96.

[Third Publication.]

AFRICA, EAST—RED SEA, WESTERN SHORE.

Shab Shakhs buoy missing.

THE British Admiralty has given notice (No. 140 of 1898) that information has been received from Lieutenant and Commander H. J. Gedge, H.M. surveying vessel *Stork*, that, on passing the spit extending off Shab Shakhs, on 31st January 1898, the buoy (conical, red) previously marking the extremity of the spit was not in position, nor could it be seen either northward or southward of the locality.

Approximate position, extremity of spit, lat. $14^{\circ} 41\frac{1}{2}' N.$, long. $41^{\circ} 6' E.$

P. J. FALLER, Comdr., R.I.M.,
Port Officer of Calcutta.

Published for general information.

T. H. CLOWES,

Under-Secretary, Marine Department.

CALCUTTA, the 16th April 1898.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 97.

[Third Publication.]

AFRICA, EAST COAST—DELAGOA BAY.

Gibbon point beacon fallen down.

THE British Admiralty has given notice (No. 141 of 1898) that Gibbon point beacon has fallen down, and a new beacon would be erected there.

Approximate position, lat. $25^{\circ} 58' 5'' S.$, long. $32^{\circ} 54' 10'' E.$

P. J. FALLER, Comdr., R.I.M.,
Port Officer of Calcutta.

Published for general information.

T. H. CLOWES,

Under-Secretary, Marine Department.

CALCUTTA, the 16th April 1898.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 98.

[Third Publication.]

SOUTH PACIFIC OCEAN.

Particulars of certain banks.

THE British Admiralty has given notice (No. 145 of 1898) that the undermentioned particulars of certain banks in the South Pacific Ocean are derived from recent examinations by Captain A. Mostyn Field, H.M. surveying vessel *Penguin* :—

- (1) **LALLA ROOKH BANK**, originally discovered and sounded on by Sir Edward Home, H.M.S. *North Star*, is $3\frac{1}{2}$ miles long north-east and south-west, with an extreme breadth of $1\frac{1}{2}$ miles.

The north-east end of the bank is in approximately lat. $12^{\circ} 54' 30''$ S., long. $175^{\circ} 38'$ W., with general depths of 10 to 14 fathoms on it, over a sand and coral bottom.

The central portion of the bank is slightly deeper than the rim, but not very markedly so. From the edge the soundings drop down steeply to depths between 200 and 300 fathoms.

Whilst at anchor on this bank (October 1897) the current was found to set between W.N.W. and S.S.E., from a half to one and a quarter knots.

The southerly set was most pronounced between 3h. and 8h. after high water at Wallis island.

- (2) **HOMER KNOLL**, named after Captain Sir Edward Home, was found by H.M.S. *Penguin* while searching for Lalla Rookh bank.

It is a small coral knoll, extending east and west about one mile between the 100-fathom limits, by little more than half a mile in breadth, with a least depth of 10 fathoms on it, and general depths of 12 to 16 fathoms, over a sand and coral bottom.

Its centre is in approximately lat. $12^{\circ} 54\frac{1}{2}'$ S., long. $175^{\circ} 36\frac{1}{2}'$ W., and it is situated one mile eastward from the north-east end of Lalla Rookh bank with soundings of from 200 to 300 fathoms between.

The 1,000-fathom line encircles the two banks, Lalla Rookh and Homer knoll, at distances varying from $1\frac{1}{2}$ to 3 miles.

- (3) **PASCO BANK**, reported by several vessels as situated between Savaii and Wallis islands, and marked "7 P. D." on the Admiralty Charts, is 5 miles in width at its eastern end, from whence it extends nearly 20 miles in a westerly direction, narrowing to a width of 3 miles in its centre, westward of which it contracts to a breadth of three-quarters of a mile, thence broadening out and forming a narrow ridge.

The general depths in the centre are from 22 to 27 fathoms, sand and coral, with a shallow rim of growing coral running round its outer margin, having depths of 8 to 10 fathoms on it. The shallowest soundings, $7\frac{1}{2}$ fathoms, were found on the southern edge of the bank, where it is most contracted in width. On all sides it drops down steeply into depths of from 200 to 400 fathoms.

The western extreme of this bank is situated in approximately lat. $13^{\circ} 4'$ S., long. $174^{\circ} 37\frac{1}{2}'$ W.

Whilst at anchor on this bank (October 1897) the current was found to set from N.W. to S.W. from a half to one and a quarter knots.

- (4) **FIELD BANK**, probably identical with a bank reported in 1874 by Captain Turpie of the Missionary barque *John Williams*, was examined by H.M.S. *Penguin* in October 1897, and as there is already a 'Turpie bank' in this vicinity, the name of Field has been given to it.

Its eastern extremity is situated in approximately lat. $12^{\circ} 16\frac{1}{2}'$ S., long. $174^{\circ} 43\frac{1}{2}'$ W., and the bank thence extends W. by S. $\frac{1}{4}$ S. for $6\frac{1}{2}$ miles, with a breadth of $2\frac{1}{2}$ miles towards the centre, and contracted at the eastern end to a narrow ridge, which is 2 miles long and barely half a mile in width.

The least water found was 13 fathoms, situated on its northern edge; the general depths over the shallow rim encircling the bank range from 14 to 16 fathoms, and the depths in the centre from 18 to 21 fathoms, over a sand and coral bottom.

The edge of the bank drops steeply on all sides into depths of from 200 to 300 fathoms.

It lies S.W. by S., distant 14 miles, from Tavuni bank, with soundings of upwards of 1,200 fathoms between.

The shoal to which the name *Turpie* was attached having been previously shown 50 miles northward of this position on the Admiralty Chart, a search was made by the *Penguin* over a considerable area in that locality, but no sign of shoal water was found there. It has therefore been expunged.

- (5) **TAVIUNI BANK**, originally reported by the schooner of that name, is a small oval-shaped bank of sand and coral, 2 miles long. E. $\frac{1}{2}$ N. and W. $\frac{1}{2}$ S., within the 100-fathom limits, and upwards of a mile broad.

Its centre is situated in lat. $12^{\circ} 6' S$, long. $174^{\circ} 34' W$. The least water found by H.M.S. *Penguin* was 9 fathoms, the depth over the greater portion of the bank ranging from 11 to 14 fathoms.

Outside the 20-fathom line it drops steeply down to depths of over 100 fathoms, the 1,000-fathom line maintaining a distance of 2 miles from it all round.

Whilst at anchor on this bank (September 1897) the current was setting N.W., half a knot.

- (6) **ROBBIE BANK**, originally reported by the Master of the schooner *Tacumi* in 1888, is nearly circular in shape, 8 miles in diameter, and situated with its centre in approximately lat. $11^{\circ} 8' S$, long. $176^{\circ} 53' W$.

It is composed of sand and coral, and is of the usual atoll-like formation, which is such a common feature in all these banks, having general depths of 26 to 29 fathoms over its central portion, with a shallower rim, running round the edge, of growing coral, about one mile in width within the 20-fathom line, with depths of 10 to 15 fathoms over it.

The shallowest part is on the north-western edge where this rim rises to depths of 7 and 8 fathoms for a distance of about 2 miles along its periphery.

The edge of this bank drops down steeply on all sides, within a very short distance, to depths of from 200 to 300 fathoms.

Whilst at anchor on this bank (November 1897) the current varied considerably. East and S. E. currents, from a half to three-quarters of a knot, occasionally setting to windward against a fresh E.N.W. wind.

- (7) **ADOLPH KNOLL**, originally reported by the German schooner *Adolph*, is a small coral bank, one mile in extent, rising steeply from depths of 300 to 400 fathoms, with a least depth of 15 fathoms on it on its western side.

Its centre is situated in approximately lat. $11^{\circ} 54' S$, long. $178^{\circ} 24' W$. and it bears S.E., distant 3 miles, from Tuscarora bank, with soundings of from 300 to 400 fathoms between.

- (8) **TUSCARORA BANK**, discovered by H.M.S. *Penguin*, is situated with its centre in approximately lat. $11^{\circ} 48' S$, long. $178^{\circ} 14' W$.

It is 10 miles long, east and west, and about 6 miles broad, having depths of 26 to 29 fathoms, sand and coral, over its central portions, with a shallower rim of growing coral, over which the general depths are 20 to 22 fathoms.

On the south-western edge there is a shallower patch of 14 fathoms, and on the northern edge a patch of 16 to 18 fathoms. The bank drops down steeply on all sides into depths of more than 200 fathoms.

Whilst at anchor on this bank (November 1897) the current varied in direction between W.N.W. and South, with a rate of from a quarter to one knot. The southerly current commenced with great regularity each day 3 hours after the moon's passage and continued for 6 hours, showing that these variations are due to tide.

Both the Adolph knoll and the Tuscarora bank appear to stand on an extensive deep bank, the 1,000-fathom limit of which it was not practicable to determine.

NOTE.—Captain Field remarks that in no single instance was the presence of any of these banks detected from the masthead, although the conditions for doing so were usually favourable, and in addition to the ordinary "look out," a Fijian, familiar with the appearance of coral water, was always stationed at the masthead.

Charts Nos. 780, 1829 and 1890 have been cancelled.

P. J. FALLER, Comdr., R.N.M.,
Port Officer of Calcutta.

Published for general information.

T. H. CLOWES,
Under-Secretary, Marine Department.

CALCUTTA, the 16th April 1898.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 50.

[Third Publication.]

PACIFIC OCEAN—PHILIPPINES—LUZON ISLAND.

Port Kavite—Light on Sangley point.

THE British Admiralty has given notice (No. 147 of 1898) that a light is exhibited provisionally from the old, iron framework lighthouse on Sangley point:—

Sangley point light is a cata-dioptric, *fixed red* light, elevated 34 feet above high water, 28 feet above the ground, and visible from N. 89° E., through east and south, to N. 31° W. (an arc of 240), a distance of 8 miles in clear weather.

Approximate position on plan No. 975, lat. 14° 29' 50" N., long. 120° 54' 40" E.

NOTE.—Sangley point is extending to the eastward, and the above light is eventually to be shifted nearer to the extremity of the point. Further Notice will be given when this change is carried out.

(Variation 1° Easterly in 1898.)

P. J. FALLE, Comdr., R.N.M.,
Port Officer of Calcutta.

Published for general information.

T. H. CLOWES,
Under-Secretary, Marine Department.

CALCUTTA, the 16th April 1898.



APPENDIX TO
The Calcutta Gazette.

WEDNESDAY, MAY 11, 1898.

NOTICES TO MARINERS.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 109.

[First Publication.]

BAY OF BENGAL.

Erratum.—In the heading of Notice to Mariners No. 85, dated 1st April last, for "Andaman and Nicobar islands" read *Gulf of Martaban*, and in paragraphs 1, 2 and 3 for "east" read *east* and for "Kennangi S. Peak" read *Krunangi S. Peak*.

P. J. FALLER, Comdr., R.N.M.,
Port Officer of Calcutta.

Published for general information.

Calcutta, the 9th May 1898.

T. H. CLOWES,
Under-Secretary, Marine Department.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 110.

[First Publication.]

BAY OF BENGAL—GULF OF MARTABAN.

Position of certain shoals.

THE Officer in charge of the Marine Survey of India has given additional notice that shoals Nos. 2 and 3, reported in Notice to Mariners, Bay of Bengal, No. 85, dated 1st April 1898, issued by this office, have been further examined with the following results:—

No. 2 is $4\frac{1}{2}$ miles long in a N. $\frac{1}{2}$ E. and S. $\frac{1}{2}$ W. direction and $\frac{1}{2}$ mile broad with from 6 to 9 fathoms on it.

The southern end lies in Lat. $15^{\circ} 01\frac{1}{2}'$ N., Long. $97^{\circ} 35\frac{1}{2}'$ E., with

Phalein Hill (1610) bearing	...	N. 31 E.
Summit Pig island	...	N. 72 E.
Krunangi S. Peak (2580)	...	S. 77 E.

The northern end lies in Lat. $15^{\circ} 06'$ N., Long. $97^{\circ} 36'$ E., with

Phalein Hill (1610) bearing	...	N. 37 E.
Summit Pig island	...	S. 78 E.
Krunangi S. Peak (2580)	...	S. 62 E.

No. 3 is 4 miles long in a N. by E. and S. by W. direction and $\frac{3}{4}$ mile broad with from 5 to 8 fathoms on it.

Its southern end lies in Lat. $14^{\circ} 51\frac{1}{2}'$ N., Long. $97^{\circ} 20\frac{1}{2}'$ E., with Krunangi S. Peak (2580) bearing N. 78 E., distant 31 miles.

Its northern end lies in Lat. $14^{\circ} 55\frac{1}{2}'$ N., Long. $97^{\circ} 21'$ E., with Krunangi S. Peak (2580) bearing N. 85 E., distant 30 miles.

A shoal of small extent, having $6\frac{1}{2}$ fathoms on it, has been discovered in Lat. $15^{\circ} 08'$ N., Long. $97^{\circ} 38\frac{1}{2}'$ E., with Phalein Hill (1610) bearing N. 36 E.

Summit Stag island	...	N. 67 E.
Summit Pig island	...	S. 57 E.

All bearings are true.

Charts affected—Nos. 828, 830, 70, Sailing Directions, Bay of Bengal Pilot, Second Edition, 1892, page 362.

P. J. FALLE, Comdr., R.I.M.,
Port Officer of Calcutta.

Published for general information.

CALCUTTA, the 9th May 1898.

T. H. CLOWES,
Under-Secretary, Marine Department.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 111.

[First Publication.]

ARABIA—GULF OF ADEN, NORTH COAST.

Aden harbour—Marbat Shoal light-vessel sunk.

THE Bombay Government has given notice (No. 46 of 1898) that telegraphic information has been received from the Port Officer, Aden, dated 22nd April 1898, that the Marbat Shoal Light-vessel showing two lights fixed red vertical has sunk.

Mariners are cautioned accordingly.

P. J. FALLE, Comdr., R.I.M.,
Port Officer of Calcutta.

Published for general information.

CALCUTTA, the 9th May 1898.

T. H. CLOWES,
Under-Secretary, Marine Department.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 112.

[First Publication.]

INDIA—BAY OF BENGAL.

Non-existence of rock N. W. of Table Island.

THE Bombay Government has given notice (No. 42 of 1898) that a careful search has been made by the Indian Marine Survey under exceptionally favourable circumstances for the rock two miles N.W. of Table Island, on which the S.S. *Medusa* is reported to have struck, without success. It is therefore considered probable the Master of the *Medusa* underestimated his distance from the light-house.

The Light-house Keeper reports that ships constantly pass close to the rocks with three fathoms on them lying twelve cables N.W. of the light-house, shown on Admiralty Chart No. 825. Vessels are hereby cautioned to keep well to the northward of Table Island, as the tides in this locality are strong and often set on to the rocks.

From the wreck the light-house bears N. 28 W. (true), distant 9½ cables, and shows signs of rapidly breaking up.

P. J. FALLE, Comdr., R.I.M.,
Port Officer of Calcutta.

Published for general information.

CALCUTTA, the 9th May 1898.

T. H. CLOWES,
Under-Secretary, Marine Department.

GOVERNMENT OF BENGAL—MARINE DEPARTMENT.

NOTICE TO MARINERS—No. 113.

[First Publication.]

NEW ZEALAND—NORTH ISLAND—HAUWAKI GULF.

Sunken wreck southward of Tiri Tiri Matangi.

THE British Admiralty has given notice (No. 187 of 1898) that the wreck of the barquentine *Waitemata* lies sunk in the fairway in a depth of 13 fathoms, with masts showing above water, in a position with Tiri Tiri Matangi lighthouse bearing N. by E. ½ E., distant about 4 miles.

An iron buoy, painted black, has been placed near the wreck.

Approximate position, lat. 36° 40' S., long. 174° 52½' E.

(Variation 14° Easterly in 1898.)

P. J. FALLE, Comdr., R.I.M.,
Port Officer of Calcutta.

Published for general information.

CALCUTTA, the 9th May 1898.

T. H. CLOWES,
Under-Secretary, Marine Department.